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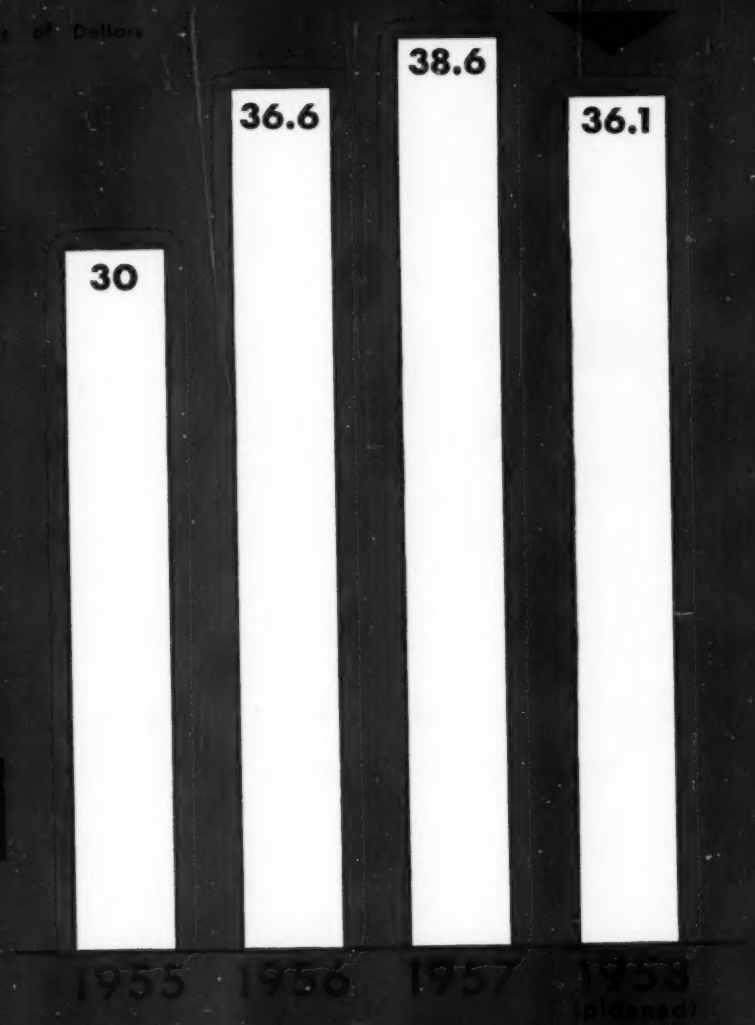
BUSINESS WEEK

A McGRAW-HILL PUBLICATION FIFTY CENTS NOV. 9, 1957

Capital Spending Starts DOWN



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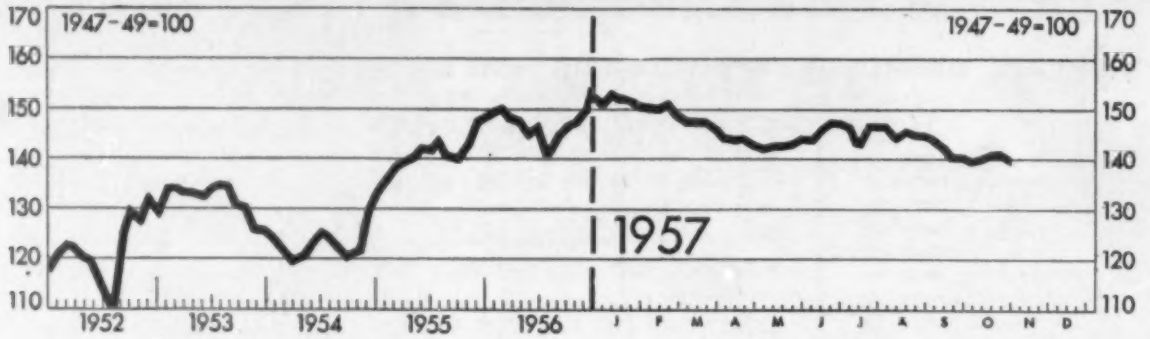
NUMBER 1471

FIGURES OF THE WEEK



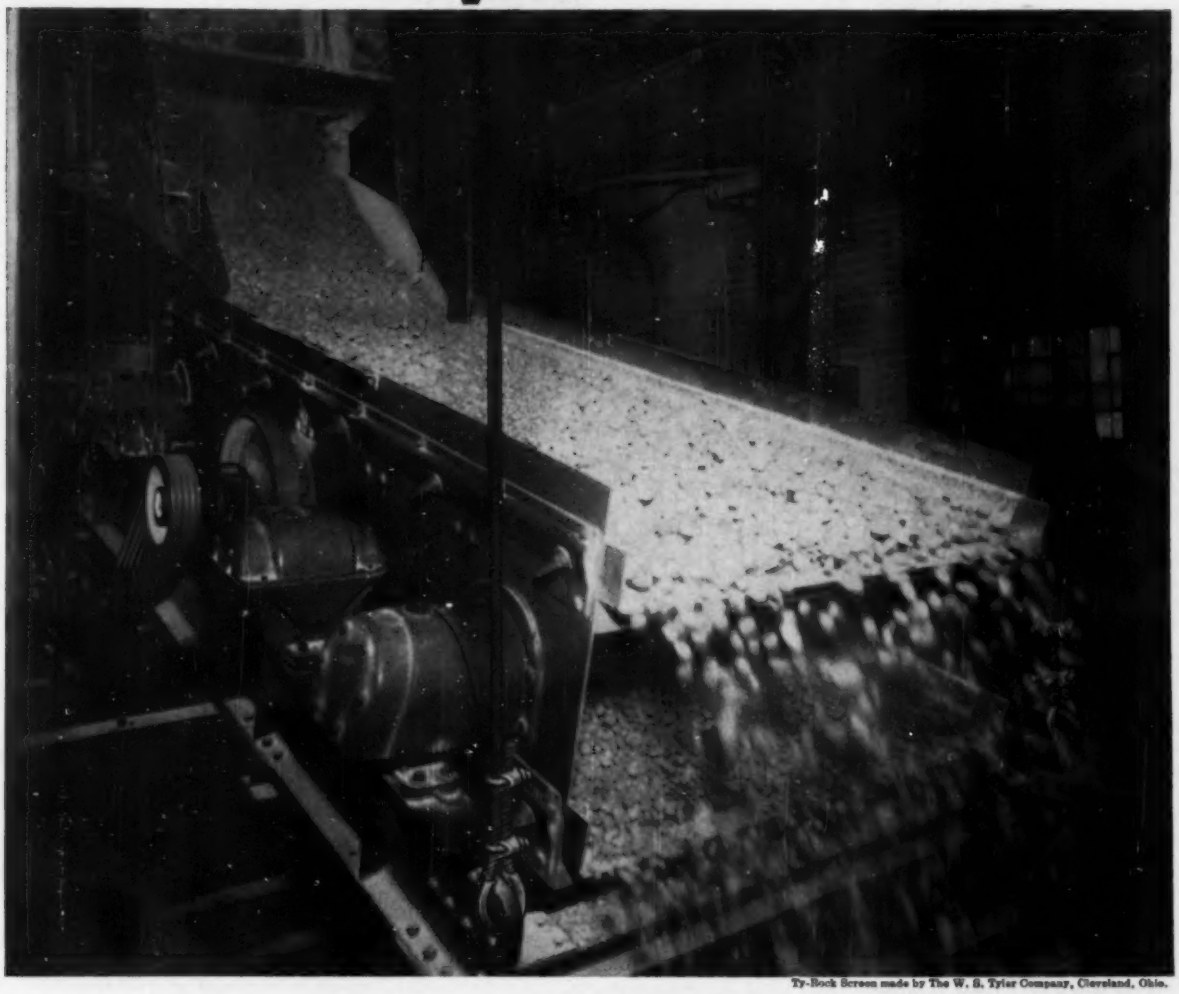
	1946 Average	Year Ago	Month Ago	Week Ago	§ Latest Week
BUSINESS WEEK INDEX (chart)	**91.6**	**149.4**	**140.3**	**†141.7**	***140.8**
PRODUCTION					
Steel ingot (thous. of tons)	1,281	2,463	2,105	†2,041	**2,015**
Automobiles and trucks	62,880	144,097	35,248	†132,625	**157,194**
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.)	$17,083	$70,794	$55,340	$56,938	**$51,763**
Electric power (millions of kilowatt-hours)	4,238	11,487	11,564	11,787	**11,860**
Crude oil and condensate (daily av., thous. of bbls.)	4,751	6,981	6,812	6,766	**††6,712**
Bituminous coal (daily av., thous. of tons)	1,745	1,739	1,709	†1,638	**1,647**
Paperboard (tons)	167,269	282,327	298,603	294,159	**292,063**
TRADE					
Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars)	82	76	68	68	**67**
Carloadings: all others (daily av., thous. of cars)	53	60	55	53	**51**
Department store sales index (1947-49 = 100, not seasonally adjusted)	90	128	130	†128	**127**
Business failures (Dun & Bradstreet, number)	22	271	261	281	**250**
PRICES					
Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100)	311.9	421.1	392.5	385.5	**384.1**
Industrial raw materials, daily index (BLS, 1947-49 = 100)	††73.2	99.0	87.6	85.6	**85.5**
Foodstuffs, daily index (BLS, 1947-49 = 100)	††75.4	80.8	81.8	82.8	**82.7**
Print cloth (spot and nearby, yd.)	17.5¢	19.2¢	17.7¢	17.5¢	**17.4¢**
Finished steel, index (BLS, 1947-49 = 100)	††76.4	168.6	181.7	181.7	**181.7**
Scrap steel composite (Iron Age, ton)	$20.27	$59.83	$39.33	$34.00	**$33.33**
Copper (electrolytic, delivered price, E & MJ, lb.)	14.045¢	36.000¢	26.780¢	26.630¢	**26.538¢**
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	$1.97	$2.36	$2.12	$2.13	**$2.14**
Cotton, daily price (middling, 1 in., 14 designated markets, lb.)	**30.56¢	33.15¢	33.41¢	33.71¢	**33.82¢**
Wool tops (Boston, lb.)	$1.51	$2.00	#	$2.00	**$1.97**
FINANCE					
500 stocks composite, price index (S&P's, 1941-43 = 10)	17.08	47.05	42.42	40.69	**40.58**
Medium grade corporate bond yield (Baa issues, Moody's)	3.05%	4.20%	4.96%	5.02%	**5.07%**
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate)	¾-1%	3⅝%	4%	4⅛%	**4⅛%**
BANKING (Millions of Dollars)					
Demand deposits adjusted, reporting member banks	††45,820	56,069	54,015	55,383	**55,805**
Total loans and investments, reporting member banks	††71,916	85,660	87,898	86,539	**86,743**
Commercial and agricultural loans, reporting member banks	††9,299	29,931	32,331	31,805	**31,773**
U. S. gov't guaranteed obligations held, reporting member banks	††49,879	25,961	25,654	25,270	**25,195**
Total federal reserve credit outstanding	23,888	25,466	25,304	25,407	**24,972**

MONTHLY FIGURES OF THE WEEK		1946 Average	Year Ago	Month Ago	Latest Month
Private expenditures for new construction (in millions)	**October**	$803	$3,003	$3,102	**$3,050**
Public expenditures for new construction (in millions)	**October**	$197	$1,299	$1,463	**$1,402**
Imports (in millions)	**September**	$412	$1,534	$1,678	**$1,541**
Manufacturers' inventories (seasonally adjusted, in billions)	**September**	$21.3	$50.8	$54.2	**$54.1**
Wholesalers' inventories (seasonally adjusted, in billions)	**September**	$5.5	$12.6	$12.8	**$12.8**
Consumer credit outstanding (in millions)	**September**	$6,704	$40,074	$42,881	**$43,011**
Installment credit outstanding (in millions)	**September**	$3,174	$30,707	$33,045	**$33,159**

* *Preliminary, week ended November 2, 1957.*
† *Revised.*
†† *Estimate.*
** *Ten designated markets, middling ⅞ in.*
§ *Date for 'Latest Week' on each series on request.*
# *Insufficient trading to establish a price.*

THE PICTURES—Allied Public Relations Associates—105 (rt.); American Photocopy Equipment Co.—101 (bot.); Jon Brennels—188, 189, 191; Grant Compton—104, 105 (lt.), 108, 112, 113; Russell Melcher—150; Photo Esso—151; I.N.P.—28 (lt. & cen.), 52 (bot.); Robert Phillips—45, 46; Steelcraft Mfg. Co.—101 (top); Joan Sydlow—89; W. W.—28 (rt.), 52 (top), 106; Hamilton Wright Org.—139.

B.F.Goodrich report:



Ty-Rock Screen made by The W. S. Tyler Company, Cleveland, Ohio.

Machine shuffles and deals rocks

B. F. Goodrich improvements in rubber brought extra savings

Problem: To separate rocks by size, they are dumped, by the ton load, down on that machine. As the screen bed gyrates at high speed, the smaller rocks fall through the screens, the bigger ones jiggle off the end.

But, for many years, manufacturers of vibrating screens had problems. The high speed and heavy loads set up violent vibrations—vibrations that used to shake, weaken and wreck machinery, and sometimes buildings, too.

What was done: Engineers studied the operation, and developed a way to "float" the screen bed on rubber mountings. These B.F.Goodrich mountings are made of strong, resilient rubber sandwiched between two metal plates. In this case, they are installed so that the vibrating body virtually hangs in the air, suspended by rubber.

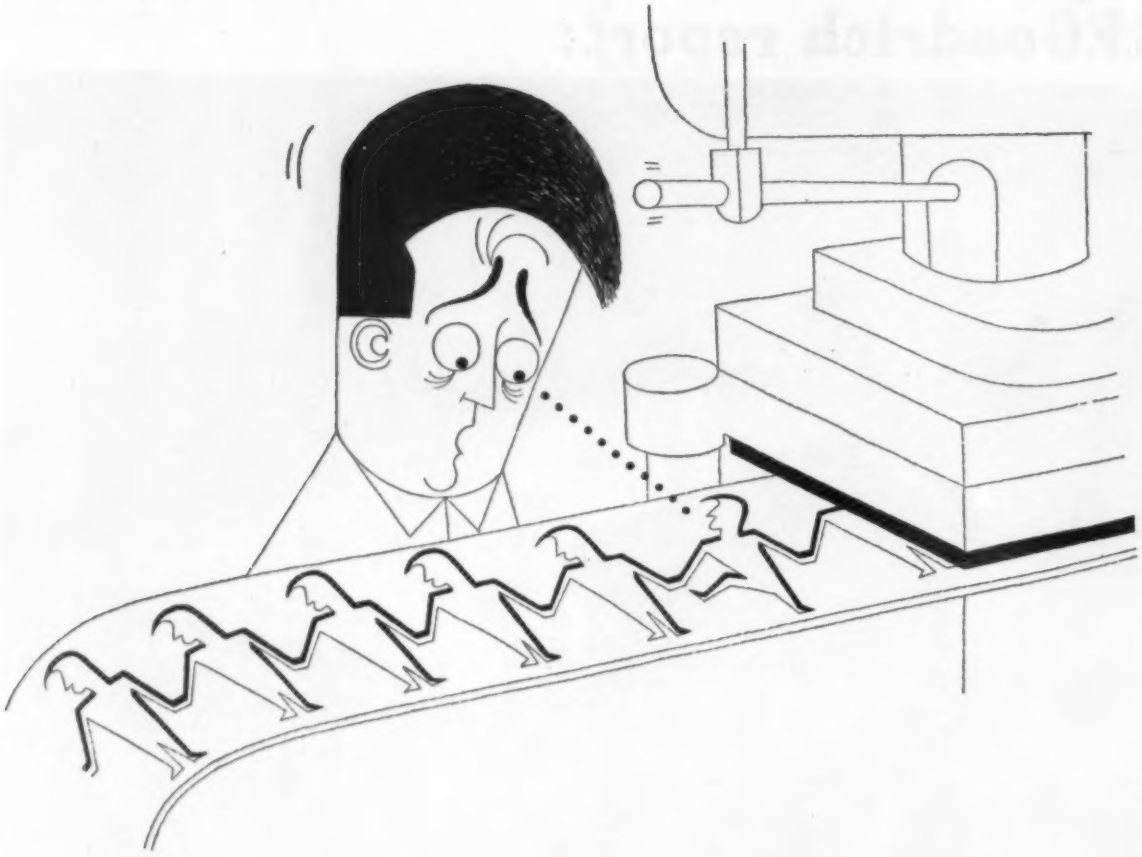
Benefits: Now the constant shaking action is completely absorbed by the rubber. Nerve-shattering, equipment-wrecking vibrations are a thing of the past.

B.F.Goodrich has helped hundreds of other equipment manufacturers improve their products by developing special rubber parts to solve specific problems. B.F.Goodrich hydraulic brake cups, for instance, are used by the millions in cars, trucks, airplanes. Extruded rubber strips, made by B.F.Goodrich, provide watertight, airtight seals on car windshields, refrigerator doors, and washing machines.

Where to buy: If you are an equipment manufacturer and if you think molded or extruded products might improve the performance of your product or increase its value, talk to a B.F.Goodrich man about it, or write *B.F.Goodrich Industrial Products Company, Dept. M-228, Akron 18, Ohio.*

B.F.Goodrich

MOLDED RUBBER PRODUCTS



Got a metal blanking problem?

Perhaps you need dies with the machinability and abrasion-resistance of Crucible's **AIRDI 150-S** tool steel—available from local warehouse stocks.

THE PROBLEM: You need dies that are easy to machine yet abrasion-resistant for the jobs in your shop. If you can get a die steel with both qualities, you'll increase production between refinishes. So you call your Crucible warehouse—

THEY RECOMMEND: Airdi 150-S, an air or oil hardening tool steel that machines 25 to 30% easier than older D2 types. This free-machining, high carbon high chromium steel has the strength and toughness to resist pounding and wear—die qualities you need for long, high-production operations. Try it! You'll also find this general-purpose steel suitable for most other types of dies, and for punches and gauges.

Crucible Airdi 150-S is only one of the dozens of special-purpose steels stocked at local Crucible warehouses, ready for prompt delivery in the sizes and shapes you need. Remember: Crucible is the only specialty steel producer *fully integrated to the point of use*. That means control and responsibility from raw material to warehouse delivery to you.

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READERS REPORT

Good Job

Dear Sir:

Your special section on missiles is terrific [BW—Oct.19'57,p66]. To have done such a thorough job so quickly, on a field that so many people have neglected for so long, is a tremendous achievement. You, and the people who worked on it, deserve to be very proud of it. . . .

EUGENE S. DUFFIELD
VICE-PRESIDENT
FEDERATED DEPARTMENT STORES, INC.
CINCINNATI, OHIO

The Last Word

Dear Sir:

Your article Who Decides: Man or Wife? [BW—Sep.14'57,p46] reminds me of the story about the man who conducted such a survey by appearing at the farmhouse door with a team of beautiful horses and a crate of chickens. He told the husband and wife that he was trying to find out how many families left the decisions to the man and that, to pay for their time, he was leaving a horse with each family where the man made the decisions and a chicken where the woman made them.

Farmer Jones said that he made all the important decisions—and his wife affirmed this. So the surveyor asked which horse the farmer wanted. "I'll take the white one," said the farmer. Whereupon his wife whispered to him and he said "On second thought, I'd rather have the brown one." "You'll take a chicken," said the surveyor.

CLARENCE W. METCALF
SHARON, MASS.

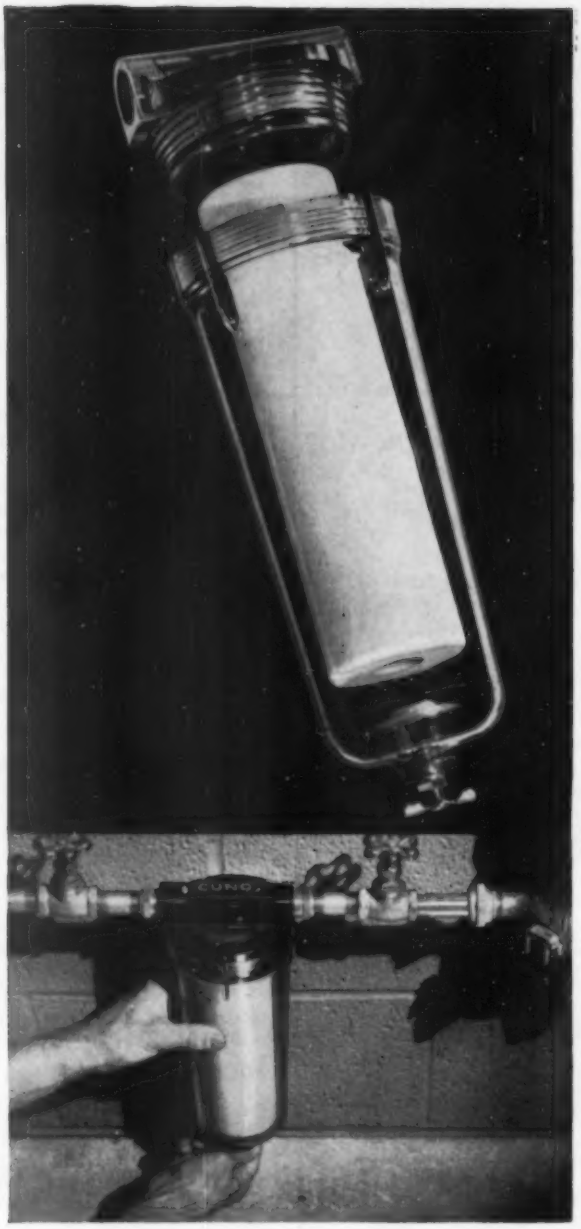
Incorrect Statement

Dear Sir:

. . . On page 93 of Business Week for September 28, 1957, you inadvertently made erroneous reference to my position before the Federal Power Commission with respect to the accounting treatment for deferred taxes arising from accelerated amortization and liberalized depreciation. More particularly, BUSINESS WEEK stated that I "said that carrying the taxes as income would violate SEC rules and should be looked into." This statement it not correct.

Actually, Mr. Beatty, of Arthur Andersen & Co. charged that the failure to normalize income resulted in the overstatement there-

TYRIL brings ideas to life



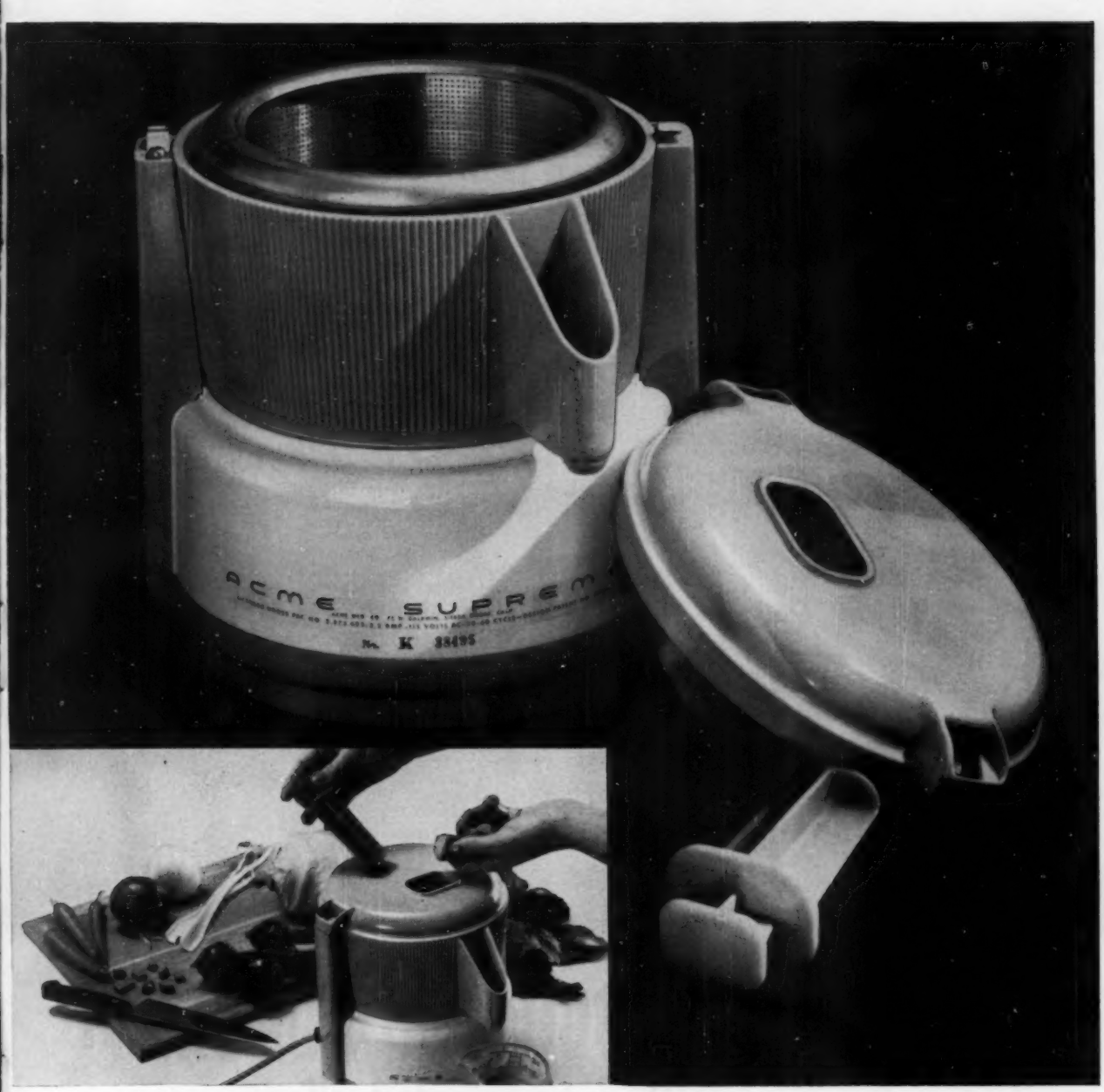
TYRIL—FOR SEE-THROUGH FILTERING

It's a clear view, clear through, with this cartridge filter housing for home water systems, made of Tyril®, a new Dow styrene acrylonitrile copolymer (formerly Styrex®). The cap need not be disconnected from a fluid-carrying line to service the cartridge. And due to the chemical resistance of Tyril, numerous liquids can be filtered – from drinking water to petroleum products. Tough and attractive, Tyril is helping to turn ideas to profit in many such applications that require high tensile strength and craze resistance.

TYRIL—FOR BETTER BLENDER DESIGN

Toughness, transparency and chemical resistance of Tyril contribute to the utility and appeal of this handsome food blender. Tyril affords better break resistance than conventional materials, offers advantages, too, through the injection molding technique. Depressed ridges improve blending inside, provide surer hand grip outside. One-ounce measuring cup is integral with cover. Tyril resists food acids. And its wide color range makes it a natural for products that must win the admiration of modern homemakers.

for industry and the home



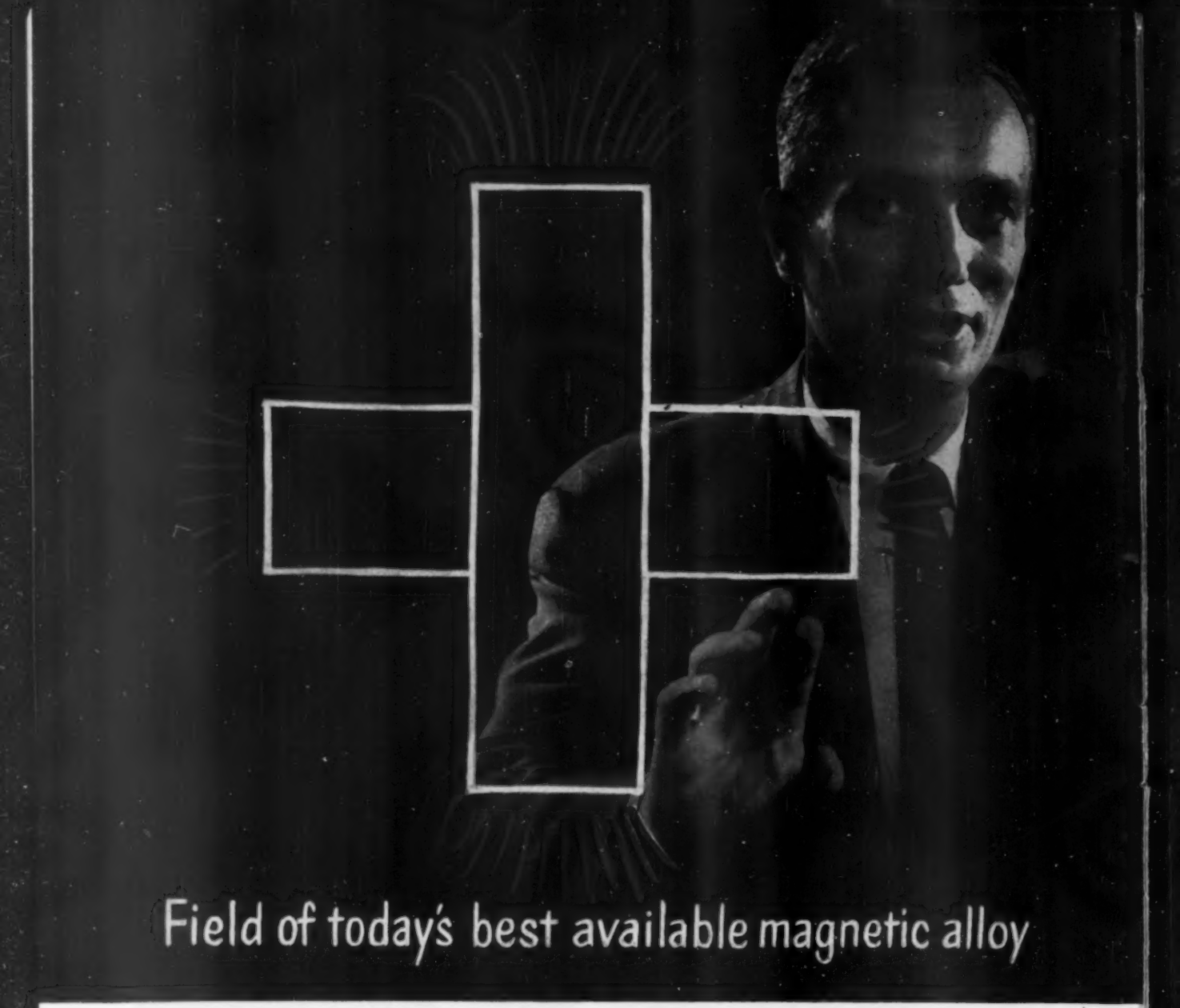
TYRIL—FOR DURABLE APPLIANCE HOUSINGS

This juicer is another example of how versatile Tyril can be injection molded into numerous shapes that are stainproof and sanitary . . . that possess the appeal of eye-catching color and sound design. With this product, most any fruit or vegetable (including the leafy variety) can be reduced to juice in a jiffy. The high luster of Tyril assures sales appeal. And its long performance is assured . . . for three good reasons. It not only combines toughness and strength but it also resists the food acids which continually attack a juicer.

Represented here are just a few of the advances being made with Tyril. Along with the other members of the Dow plastics family, it is opening up new profit opportunities in hundreds of markets. And Tyril, of course, is backed by the industry's finest technical service. If you have a product idea—bring it to life with Dow plastics! THE DOW CHEMICAL COMPANY, *Midland, Michigan—Plastics Sales Dept. 1526A.*

*Trademark of The Dow Chemical Company

YOU CAN DEPEND ON DOW



WESTINGHOUSE SCIENTISTS SMASH

open new frontiers with cube-oriented alloy

Westinghouse scientists have climaxed an intensive search that promises significant improvements in electrical equipment performance and operating costs. With this new alloy, Cubex®, metal crystals are aligned in ice-cube fashion so that magnetism flows readily in four directions instead of two . . . actually turns corners with markedly less resistance.

Now in the development stage, it will bring such important benefits as better performance, higher efficiency and smaller size to users of motors, transformers and other electrical apparatus.

Developed in Westinghouse Research Laboratories, Cubex is the result of continuous programs of research and development since the 1920's. It is just one of the many imaginative projects Westinghouse scientists are carrying on to make electrical living mean more to you.

J-95186

YOU CAN BE **SURE**...IF IT'S

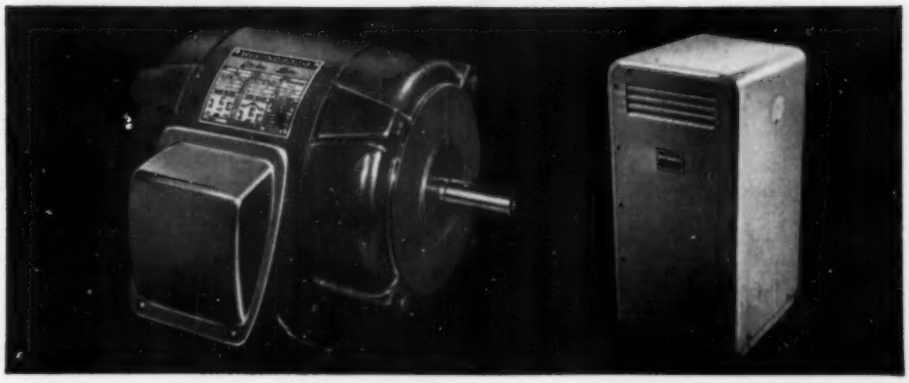
Westinghouse

Field of new Cubex magnetic alloy

THROUGH MAGNETIC BARRIER:

▲Dr. George W. Wiener, advisory metallurgist at the Westinghouse Research Laboratories, demonstrates the old vs the new Cubex magnetic alloy. He was a key member of the research team that made this outstanding accomplishment.

▶Standard motors and transformers such as these will realize the greatest future benefits from this new Westinghouse discovery.



THE OILER KNOWS A REASON FOR OVERTIME HOURS!

There's always a reason—and always a premium price for overtime. The production chief is working late trying to find a way to boost output. The oiler is trying to keep machines *running*. Chances are, if the oiler and his chief pooled their knowledge, they would *both* cut down on their overtime. And they would find that one of the causes of their common problem was *inadequate hand lubrication methods.*

Often a plant's lubrication methods are overlooked when production costs are being analyzed. The results are lost manhours and machine downtime . . . oil spillage and product spoilage . . . serious safety hazards. If *you* are looking for ways to increase production and decrease costs, you may find your answer in improved lubrication.

Alemite Automatic Lubrication saved a Mid-west manufacturer $20,000 a year. A paper company cut costs $3,000 a month. And a textile firm ended substantial production wastes.

Modern Alemite systems automatically feed exactly the right amount of oil or grease to every lubrication point . . . keep machines running longer with less downtime . . . eliminate oil waste and product spoilage.

Let Alemite assist you in solving your company's lubrication problems. Wherever you are, there's an Alemite representative ready to serve you.

FREE! NEW BOOKLET! Send for a free copy of "An Executive Approach to Lubrication Problems." No obligation, of course.

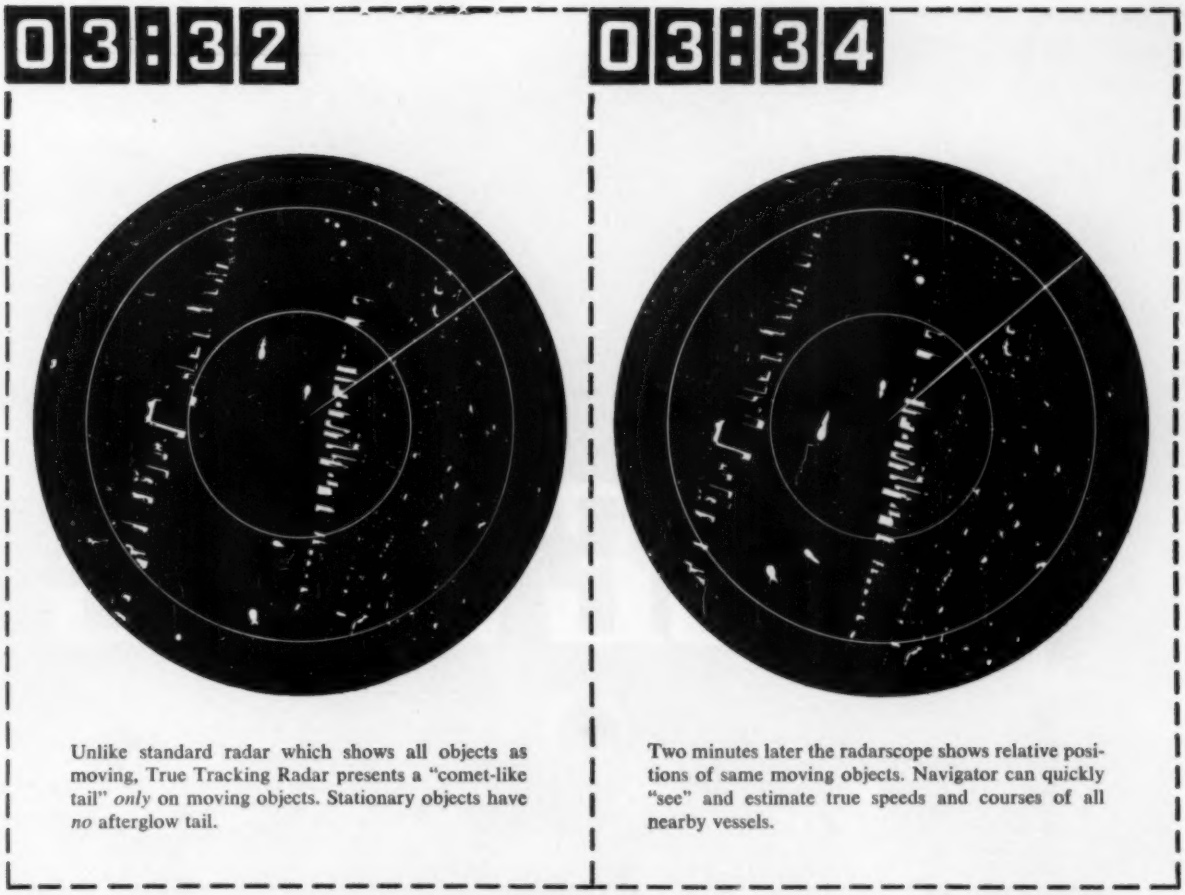
STEWART SW WARNER

ALEMITE

REG. U. S. PAT. OFF.

Division of STEWART-WARNER CORPORATION

1850 Diversey Parkway, Chicago 14, Illinois



Unlike standard radar which shows all objects as moving, True Tracking Radar presents a "comet-like tail" *only* on moving objects. Stationary objects have *no* afterglow tail.

Two minutes later the radarscope shows relative positions of same moving objects. Navigator can quickly "see" and estimate true speeds and courses of all nearby vessels.

Radar Motion Pictures

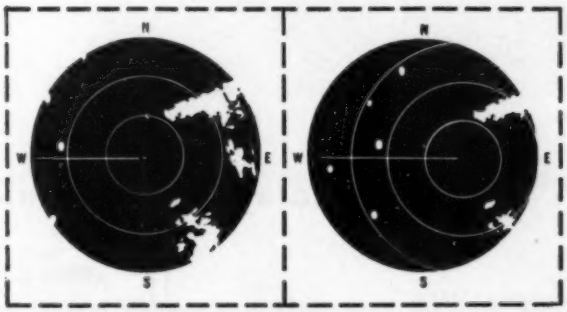
New True Tracking and Off-Center Positioning easily adapted to Sperry Mark 3 Marine Radar

Sperry's new True Tracking Radar offers instant differentiation between stationary and moving objects. Presenting a panoramic "motion picture" of everything in range, it enables the trained observer to quickly estimate the direction and speed of nearby vessels.

With True Tracking, all moving vessels—including the operator's own—appear as moving blips with small, comet-like tails. Fixed objects such as land, docks and buoys show *no* afterglow tail.

Another new development, Off-Center Positioning, enables the navigator to move his ship to any point on the scope *without changing the range scale*. It permits him to observe new areas and approaching vessels while retaining important land check points. Off-Center Positioning is incorporated in True Tracking Radar.

True Tracking and Off-Center Positioning, both modifications of the Sperry Mark 3 Radar, can be easily installed at the factory or aboard ship. For more information on these two important Sperry contributions to safer, more accurate navigation, phone or write your nearest Sperry district office.

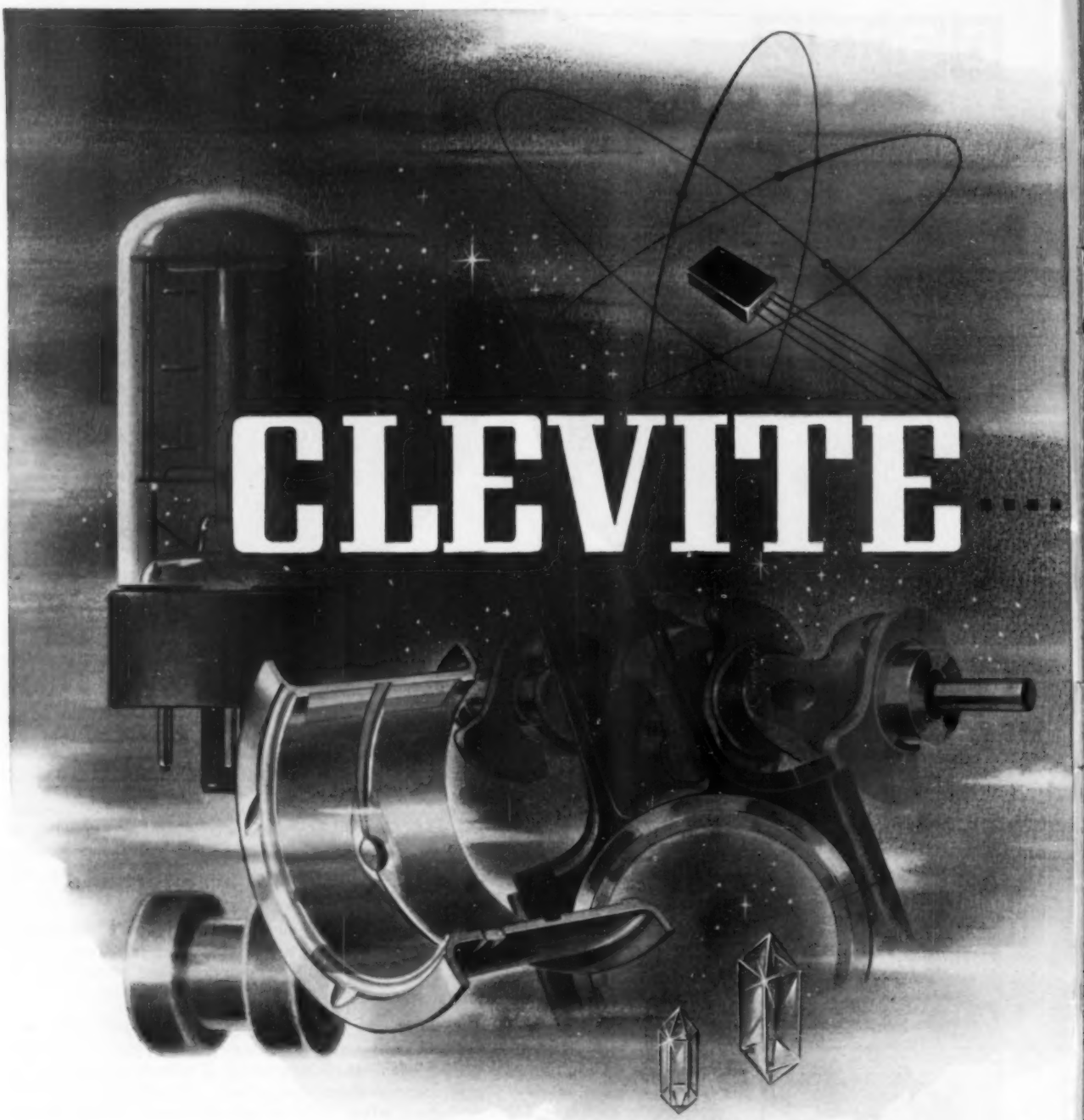


Off-Center Positioning Control, an integral part of True Tracking, lets the observer increase his "search area" while maintaining high resolution and definition on the short range. Presentation (left) shows "no traffic" land masses with ship traffic at edge of scope. By "off-centering" his ship electronically (right) operator retains his check points and also brings into view ships formerly out of range.

SPERRY MARINE DIVISION
GYROSCOPE COMPANY
Garden City, New York

DIVISION OF SPERRY RAND CORPORATION

CLEVELAND • NEW ORLEANS • BROOKLYN • LOS ANGELES • SAN FRANCISCO • SEATTLE
IN CANADA: SPERRY GYROSCOPE COMPANY OF CANADA, LTD., MONTREAL, QUEBEC



PRECISION COMPONENTS

The companies which comprise **CLEVITE** Corporation supply a wide range of products for many phases of industry, science and defense. You already may be familiar with some of them. Here is a partial list of products manufactured in **CLEVITE** Corporation's thirteen plants located throughout this country, in Canada, and in Europe.

SLEEVE BEARINGS • BUSHINGS • WEAR PLATES • OIL & AIR SEALS • BI-METALLIC MATERIALS • SINTERED MATERIALS • POWDERED METAL PARTS • RUBBER-AND-METAL BEARINGS • RUBBER-AND-METAL BUSHINGS • BONDED RUBBER-AND-METAL PRODUCTS • MOLDED RUBBER PARTS • VIBRATION MOUNTS • TRANSISTORS & DIODES • PIEZOELECTRIC CRYSTALS & CERAMICS • ELECTRONIC INSTRUMENTS FOR INDUSTRIAL & RESEARCH USE • ELECTRONIC MEASUREMENT INSTRUMENTS • MAGNETIC RECORDING COMPONENTS • UNDERWATER SOUND EQUIPMENT • MAGNETIC RECORDING BELTS • ELECTROLYTIC COPPER FOIL

...a good name to remember

You'll be seeing more of it, hearing more about it.
CLEVITE is *a good name* to keep in mind.

The mass demands of industry have created new and exacting standards of requirement, which in today's economy call for new methods of supply.

Both *quality* and *quantity* are significant words in the American industrial vocabulary. But often it is difficult to link them—to find *both* high quality and mass quantity in a single source of supply.

Clevite brings together under one name a family of companies distinguished for their experience in the manufacture of precision components, and the resources of organizations capable of mass production to the highest engineering standards.

Aggressive management has *turned problems into advantages:* the benefits of teaming research and resources for results that lead to better products.

In the highly technical fields of electronics and horsepower equipments, there is small room for tolerance, either in quality or quantity. Nor do the standards of requirement stand still. They become ever more exacting.

Physical resources, technical experience and skill, ingenuity to grow with and anticipate the future needs of industry—this is what Clevite supplies, what it so importantly regards. • • • • CLEVITE Corporation, 17000 St. Clair Avenue, Cleveland 10, Ohio.

CLEVITE
CORPORATION

FOR INDUSTRY, SCIENCE AND DEFENSE

CLEVITE RESEARCH CENTER
Cleveland, Ohio

DIVISIONS OF CLEVITE CORPORATION

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CLEVITE ELECTRONIC COMPONENTS
Cleveland, Ohio

CLEVITE ORDNANCE
Cleveland, Ohio

CLEVITE TRANSISTOR PRODUCTS
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INTERMETALL, G. m. b. H.
Dusseldorf, Germany

OSBORN

BEFORE BRUSHING
Jet engine part formerly hand-filed and emery-rubbed to remove burrs and sharp edges. Hand-finishing time: 80 minutes.

AFTER BRUSHING
Burrs are thoroughly removed, edges and surface junctures are blended to radius tolerances . . . each part is precision-finished quickly, uniformly. Osborn Brushamatic® finishing time: 8 minutes.

Flying finish for jet engine parts

. . . 10 times as fast with precision OSBORN Brushamatic® Methods

JET ENGINE COMPONENTS *are precision finished automatically at high production rates on Osborn Brushamatic® 51-OOL Machine.*

HERE'S how a jet engine manufacturer has broken a production bottleneck . . . saved dollars and days in the precision-finishing of jet engine components . . . with Osborn Brushamatic® Methods.

Sharp edges, burrs or scratches on components cause stress concentrations and resulting fractures—so a high degree of surface refinement is essential. *Tedious hand finishing each of these parts used to take 80 minutes.* Still, job quality was inconsistent . . . costly in time and money.

Today, Osborn Brushamatic does the same job in 8 minutes . . . 10 times as fast . . . with a high-quality, uniform finish held to microinch specifications.

It's typical of how Osborn Power Brushing works to help *you* speed production . . . cut costs . . . improve product quality. Write for details. *The Osborn Manufacturing Company, Dept. A-107, Cleveland 14, Ohio.*

Osborn Brushes

BRUSHING MACHINES • BRUSHING METHODS
INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

of. I took the position, on the other hand, that Beatty's charge was entirely baseless. I then pointed out the seriousness of his charge by indicating the dire consequences that would flow under SEC statutes and rules to both the companies involved and the public accountants who certified to their statements if he were correct.

DONALD C. COOK
EXECUTIVE VICE PRESIDENT
AMERICAN GAS & ELECTRIC SERVICE CORP.
NEW YORK, N. Y.

In Rebuttal

Dear Sir:

I assume that you only published a few letters from the South [BW—Oct. 19'57,p5] in order to see what response you would get from the civilized part of the nation. Having many times passed through the Deep South, I am bitterly aware of what primitive people they are. It concerns me deeply because I am very certain that our nation cannot survive unless we truly believe that all men are created equal, without regard to color, race, or creed. . . .

P. E. SHERIDAN
SHERIDAN ASSOCIATES
CAMBRIDGE, MASS.

Dear Sir:

Your splendid magazine is reaching new heights in unbiased journalistic reporting with your great articles and editorials regarding a very serious crisis facing our nation, integration. Regardless of our feelings in this matter, no one disputes the need for an enlightened approach and the necessity for all of us to know and understand the moral issues involved.

W. H. MARTY
BACON CRANE & HOIST CORP.
AMITYVILLE, L. I., N. Y.

Dear Sir:

Re: Readers Report, letter writer G. A. Gantz, October 19th issue.

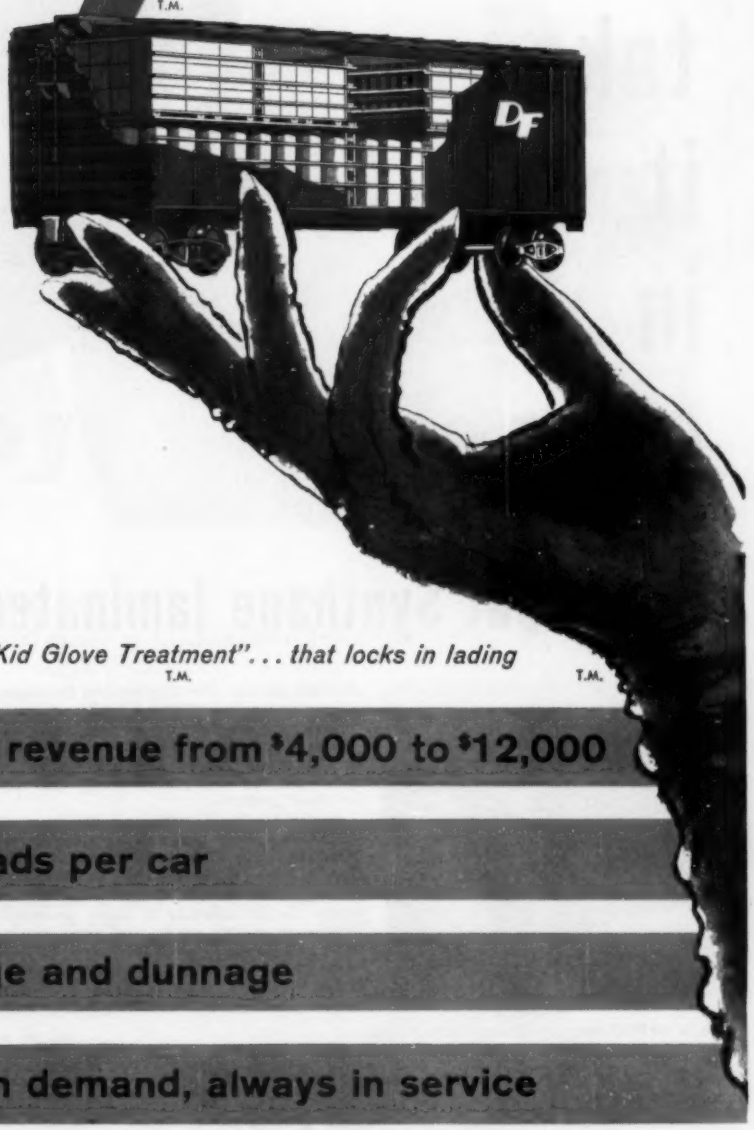
As long as I live I doubt that I will ever get over a feeling of chagrin at how bias on the part of so many humans causes them to pervert their reasoning powers. I am white and have never lived in the South. I like to believe that I am impartial on the Negro issue, with mind open to reasonable, intelligent discussion on both sides of the question. But when a writer, such as Mr. Gantz, allows himself to be so prejudiced that his thoughts don't even make sense, then I fear for the human race.

JOHN A. RIDDLE
PITTSBURGH, PA.

EVANS DF CARS...

T.M.

popular and profitable



The "Kid Glove Treatment"... that locks in lading

T.M. T.M.

- DF raises a box car's revenue from $4,000 to $12,000
- DF allows heavier loads per car
- DF eliminates damage and dunnage
- DF cars are always in demand, always in service

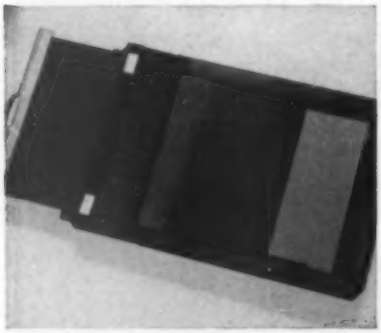
EVANS PRODUCTS COMPANY • PLYMOUTH, MICHIGAN

EVANS
DF LOADER

EVANS PRODUCTS COMPANY also produces: Evaneer fir plywood; Evanite hardboard; fir lumber; Evanite battery separators; truck and bus heaters; Evans bicycles and velocipedes

take it in color

and you put Synthane laminated plastics to work



Slide for cut film holder—made from Synthane sheet because Synthane is opaque to infra-red rays.

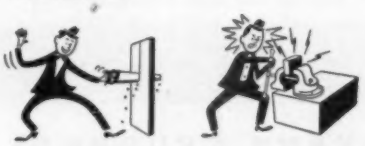
At first glance the connection between color photography and Synthane laminated plastics may seem obscure. Actually, Synthane has long been at home in the manufacture and processing of film and in the developing of the finished picture.

Many types of rolls, loop sticks, and structural parts made of Synthane are used by the film manufacturer. Racks, film sprockets, reels and rollers employ Synthane in developing processes. In the infancy of color pictures (and ever since), racks and reels made of Synthane proved to be exactly what were needed to resist developing solutions, prevent film fogging through contamination. Film holder slides and various parts for cameras are other uses of Synthane in photography.

The photographic industry needs Synthane for its unique combination of properties. Resistance to moisture and chemicals, non-fogging qualities, its hard, smooth surface are all important characteristics. Synthane is tough, light in weight (half the weight of aluminum) and easily machined. These and many other chemical, electrical and mechanical properties make Synthane valuable throughout the length and breadth of industry.

Over 30 grades in sheet, rod or tube form or completely fabricated by us are looking for work with you. Write for information.

CHEMICAL RESISTANCE LIGHT WEIGHT



EASILY MACHINED MECHANICAL STRENGTH

SYNTHANE . . . industry's unseen essential

SYNTHANE CORPORATION, 1 RIVER ROAD, OAKS, PA.

How to be sure of swift shipping

What terrible torture Tom used to endure
'Cause his shipping was slow and deliveries unsure

Life's a big bed of roses now, sweet as a dream
Tom calls **RAILWAY EXPRESS** *... the dependable team!*

The big difference is

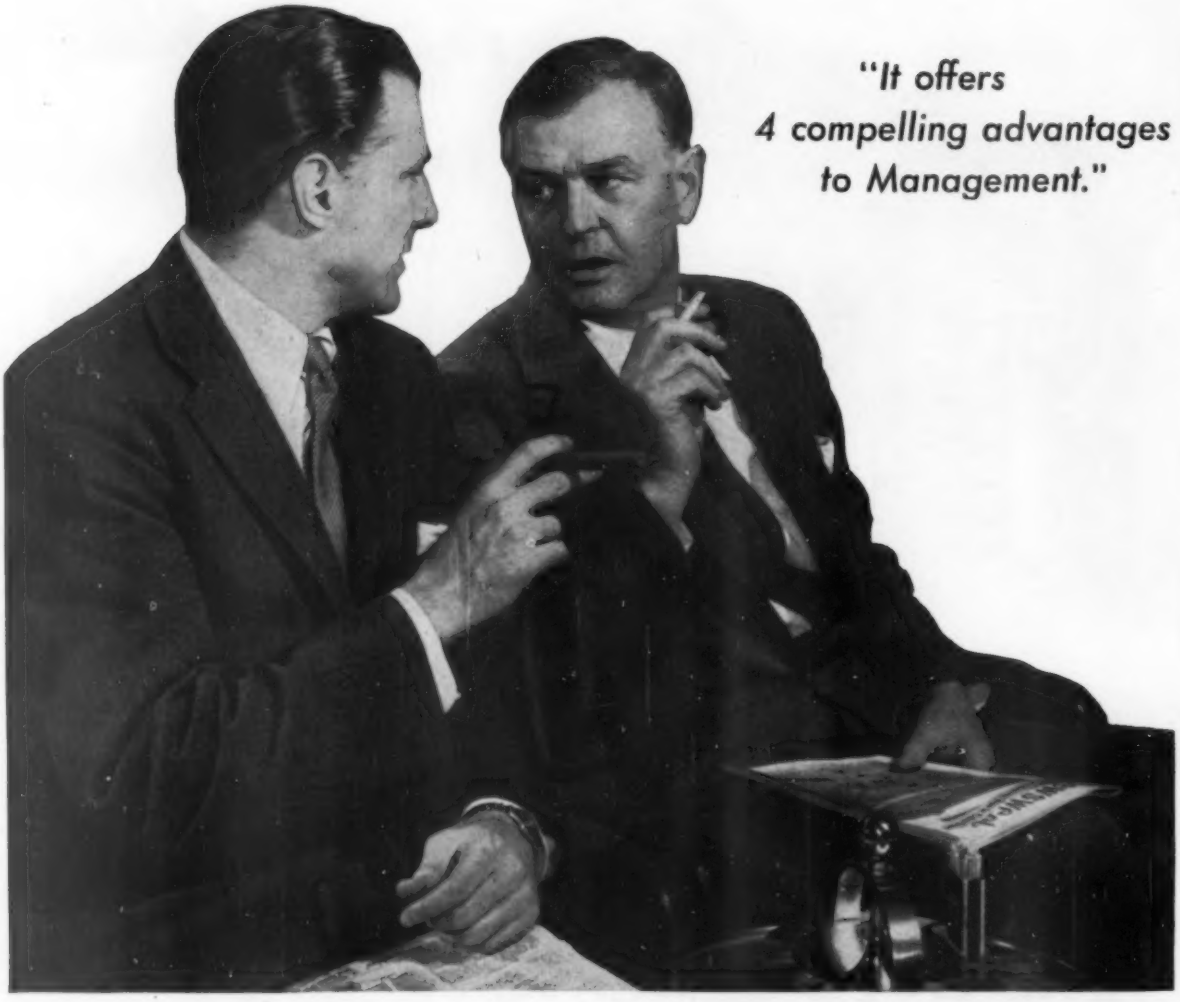
Ask any businessman which carrier gives the most satisfactory service year in and year out. Chances are he'll say Railway Express. Reasons? Speed, dependability, over-all economy, vast coverage ... and one more—*teamwork*.

You see, the entire Railway Express team has but one job, and that's *to meet your every shipping need*. The result? Performance no one else can match. So, whether you're sending or receiving, here or abroad ... always call Railway Express, the complete rail-air-sea shipping service.

RAILWAY EXPRESS AGENCY

safe
swift
sure

"What do you know about Texaco's One Sales Agreement?"



"It offers 4 compelling advantages to Management."

Many of the more profitable approaches to reduced operating costs can and should be applied to lubrication routine: (1) quantity buying, (2) simplified inventory, (3) uniform specification and (4) adequately engineered application. It is because of this that Texaco's One Sales Agreement has become so overwhelmingly popular with the management teams of multiple-plant operations.

You see, only Texaco operates out of more than 2,000 Distributing Plants strategically placed in all 48 states. This arrangement means you can get rapid delivery and lubrication engineering service that is fully coordinated, yet is geared to solve individual lubrication problems no matter where they arise in your operation.

This is practical aid to management. The kind of aid that helps bring production up and costs down. Would you like to know exactly how this One Sales Agreement operates? Call the Texaco Distributing Plant nearest you or write:

The Texas Company, *National Sales Division,* 135 East 42nd Street, New York 17, N. Y.

TEXACO

INDUSTRIAL LUBRICANTS

BUSINESS OUTLOOK

BUSINESS WEEK
NOV. 9, 1957

News these days is dotted with production cuts here and layoffs there. None is particularly large or important in its own right, but they clearly add up to a mildly disappointing fourth quarter.

Steel operations are scheduled to be a little lower this week, marking the fifth consecutive weekly decline.

Now and then you read of a furnace being cooled for repair—the kind of thing that doesn't happen in boom times except in emergencies.

Operations still are close to 80%. That's a profitable rate, but the gradual slide typifies what seems to be going on in many lines.

—•—

Consumers, on whom business must depend in the last analysis, hadn't shown any signs of taking to their storm cellars as the fourth quarter opened. They not only were spending, they still were borrowing.

Prospects now are that installment debt will pass $34-billion in December. This would be an expansion of $2½-billion for the year—and it would mean a rise of about $1-billion in the final quarter.

Growth of installment debt this year won't set any records, but people are using more credit for purchases than ever before.

Borrowing against future income this year will exceed $42½-billion.

Even in 1955, when auto buyers in particular borrowed as never before, total extensions were only $39.1-billion.

But repayments this year will run $40-billion (against only $33.7-billion in 1955), holding the net increase to just over $2½-billion.

Autos, as usual, will contribute the largest part of the installment borrowing rise. Auto debt will rise about $1.2-billion this year.

But personal loans won't be far behind with a $1-billion increase.

The proportionate increase for personal loans will, in fact, be much the larger because they ended 1956 at $7.2-billion against a figure almost exactly twice that high for outstanding auto loans.

Pay-as-you-use, always a strong expansionist force when our economy is healthy, will help you chart consumers' attitudes in 1958.

People always repay more than they borrow in January. February sees near balance as a rule. But if repayments are even close to the total of new borrowings in March and after, it will be an unwelcome sign.

Only 1954 among recent years has seen near balance after February. In that year, borrowings didn't top repayments heavily until December.

—•—

Remember the consumer's debt positions when you try to appraise the sales prospects for 1958 autos.

Buyers who went into debt in 1955 finally will be paid out soon.

That means they will own trade-ins. Up to now, they hadn't had enough equity in their 1955 cars to trade for 1956 or 1957 models (due to too-lenient paper running for 36 months and overwritten in 1955).

But there's another side to it: Their cars now are three years old. Low trade-in values may push high-priced new models out of reach.

Auto dealers fret more and more about the price tags on new cars.

And you could see, from prices announced this week, that Ford is out to capitalize on this in the sales race. Cuts were posted on the four low-end Fords and the scale generally undercuts Chevrolet and Plymouth.

—•—

Manufacturing output has held up amazingly well so far this year considering the discouraging trend of new orders.

Every month this year, the value of goods shipped by the nation's factories has exceeded incoming orders.

Prior to October, shipments had suffered no really measurable decline; in the same period, the seasonally adjusted value of new orders dropped from a monthly high of $29-billion last December to less than $27-billion.

New orders booked by all factories in the third quarter, according to the Dept. of Commerce, exceeded $81-billion. Yet, high as that figure is, it's the smallest since the second quarter of 1955.

Makers of durable goods took $39-billion of these orders—the poorest quarterly bookings since the first quarter of 1955.

Factories making durable goods opened this year with order backlogs totaling $61-billion. Due to shipments in excess of new orders, the backlog now has dwindled to less than $53½-billion.

Makers of nondurables, on the other hand, have been booking more business than last year Shipments have averaged the same as incoming business, so their backlogs are about the same as in 1956.

Inventories held by durable goods manufacturers haven't looked particularly high, up to last report, simply because output was holding up. But if output starts coming down to match new orders (and the patterns of 1949 and 1954 indicate it will), then stocks will be topheavy.

Inventories, for all the talk about liquidation, are just about where they were last February.

It should be noted, nevertheless, that today's stocks—valued at $53½-billion, $3-billion above a year ago—aren't so high as they look. Most of the year-to-year rise—maybe all of it—represents price.

—•—

Business certainly hasn't been adding to inventory in recent weeks. You can see that in the subnormal demand for bank credit.

Failure of business loans to rise as usual at this time of year is not, as you might surmise, due to dear money. It's lack of need.

Of course, tight money may be back of the reduced need. That possibility had Washington worried at midweek, according to a reliable report.

The slackening loan demand is showing up here and there in lower rates of interest. You have seen, for example, Uncle Sam paying slightly less on his weekly trips to the bill market.

And bankers' acceptances (used mostly to finance foreign trades) are in demand to keep excess funds working; rates were cut at midweek.

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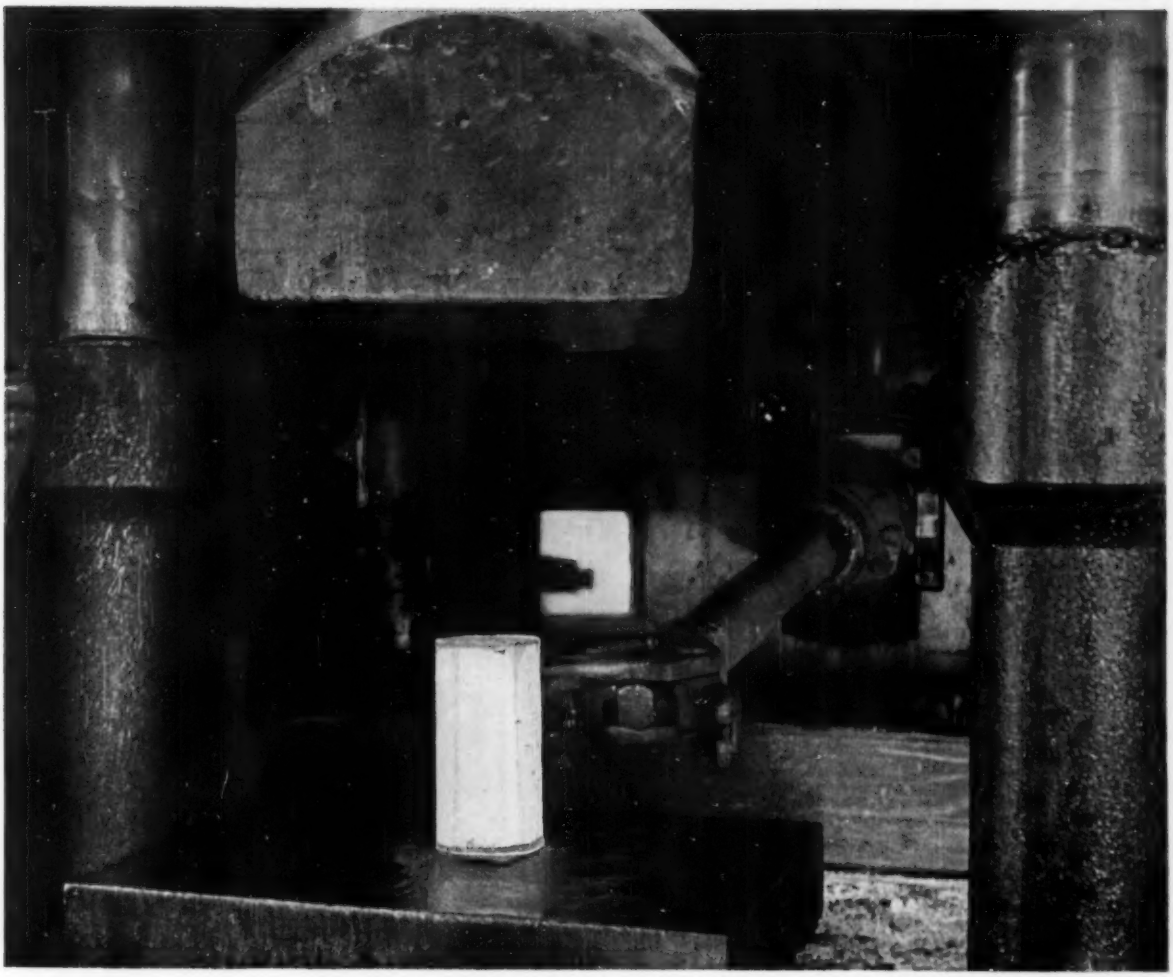


Photo courtesy Cameron Iron Works, Inc., Houston, Texas, and Linear, Inc., Philadelphia, Pa.—Manufacturers of Precision Molded Seals

How to make 4 lbs. of rubber pack a 1000-ton load

To batter a billet into rough shape, prior to machining, is no chore for the hydraulic forging press shown above. A press of a button and it works down the hot steel with a thousand tons of pressure every several seconds.

But it was a chore to find an adequate seal for the big press ram. Its designers looked long and hard before they found a split ring packing that would not leak under the high pressure and fast traverse.

Twin secret of the success of the fabric-reinforced, precision-molded, rubber rings now used are their unique design—and CHEMIGUM. A series of internal, V-shaped dams and external abutments seal off any labyrinth leakage, while the CHEMIGUM assures a lastingly tight fit.

The reasons why the ring manufacturer uses CHEMIGUM for this and other precision seals are its excellent resistance to oil, heat and abrasion and its unusual ease of processing. How can this outstanding combination of properties benefit your product? For details, write to Goodyear, Chemical Division, Dept. K-9415, Akron 16, Ohio.

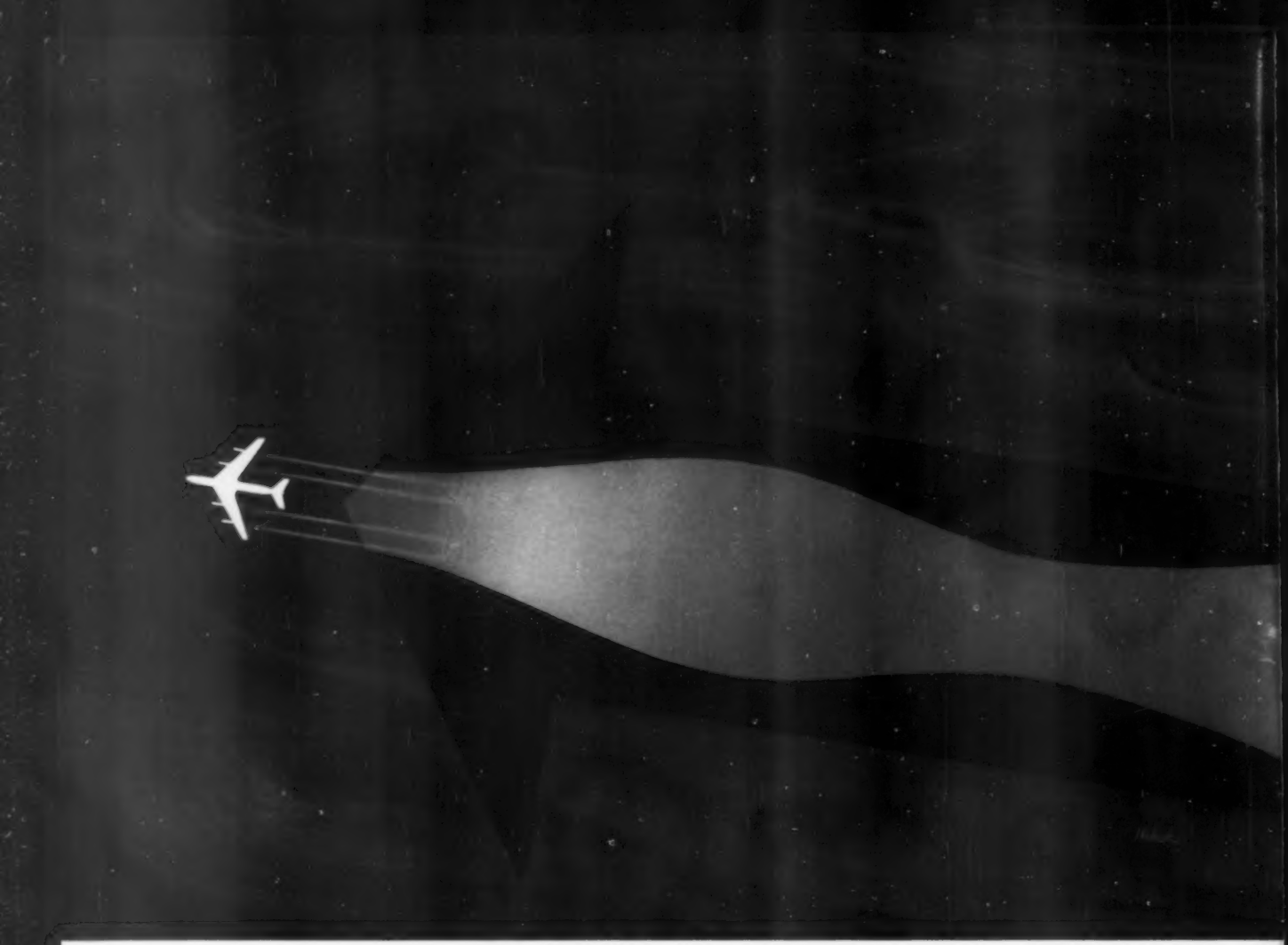
CHEMICAL
GOODYEAR
DIVISION

RUBBER &
RUBBER CHEMICALS
DEPARTMENT

Chemigum, Plioflex, Pliolite, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

CHEMIGUM • PLIOFLEX • PLIOLITE • PLIOVIC • WING-CHEMICALS

High Polymer Resins, Rubbers, Latices and Related Chemicals for the Process Industries



Jet aviation . . . faster, smoother, safer

Billions invested in commercial jets to fly you quicker, more comfortably

Soon you'll be able to leave New York City at 7 a.m. (EST) and arrive in Los Angeles the same morning with the working day still ahead of you. For right now, jet-plane builders are designing and testing commercial models that can cross the country in 4½ hours. The first of these is scheduled for delivery late next year.

In addition to great speed, the new jet planes will offer as many as 160 travelers a comfortably quiet flight, free from fatiguing vibration. The jet engine's simpler design should prove an important extra safety factor.

A link between today's standard aircraft engines and the jets of the future are the turboprops that use jet power to turn their propellers. In the jet age, these planes will probably handle short- and medium-haul flights and air cargo.

Millions of dollars and years of development are going into the production of the first American jet transports. Cost is over $5 million each – two or three times the price of a present-day propeller-driven airliner.

With the commercial jet industry needing huge sums of money for development and production, it often looks to First National City *bankers* for working capital. These *bankers* supply short-term credit to help finance the manufacture of the thousands of component parts and sections that go into the plane, as well as financing assembly of the plane itself.

The Bank also sets up revolving credits to help airlines make progress payments while planes are being built, and it participates in the long-term financing needed when airlines take possession of them.

There are *bankers* at First National City who know your industry, too. Consult them for the advantages of having a *banker* instead of just a bank account.

The **FIRST**
NATIONAL CITY BANK
of New York
First in World Wide Banking

CARRY FIRST NATIONAL CITY BANK TRAVELERS CHECKS...SAFE...SPENDABLE ANYWHERE

BUSINESS WEEK

NOVEMBER 9, 1957
NUMBER 1471

Capital Spending Takes Sudden Dip

Business plans for 1958 push capital spending off its $39-billion peak into a $2.6-billion drop.

The steepest cuts will come in the basic industries, McGraw-Hill's latest capital spending survey shows.

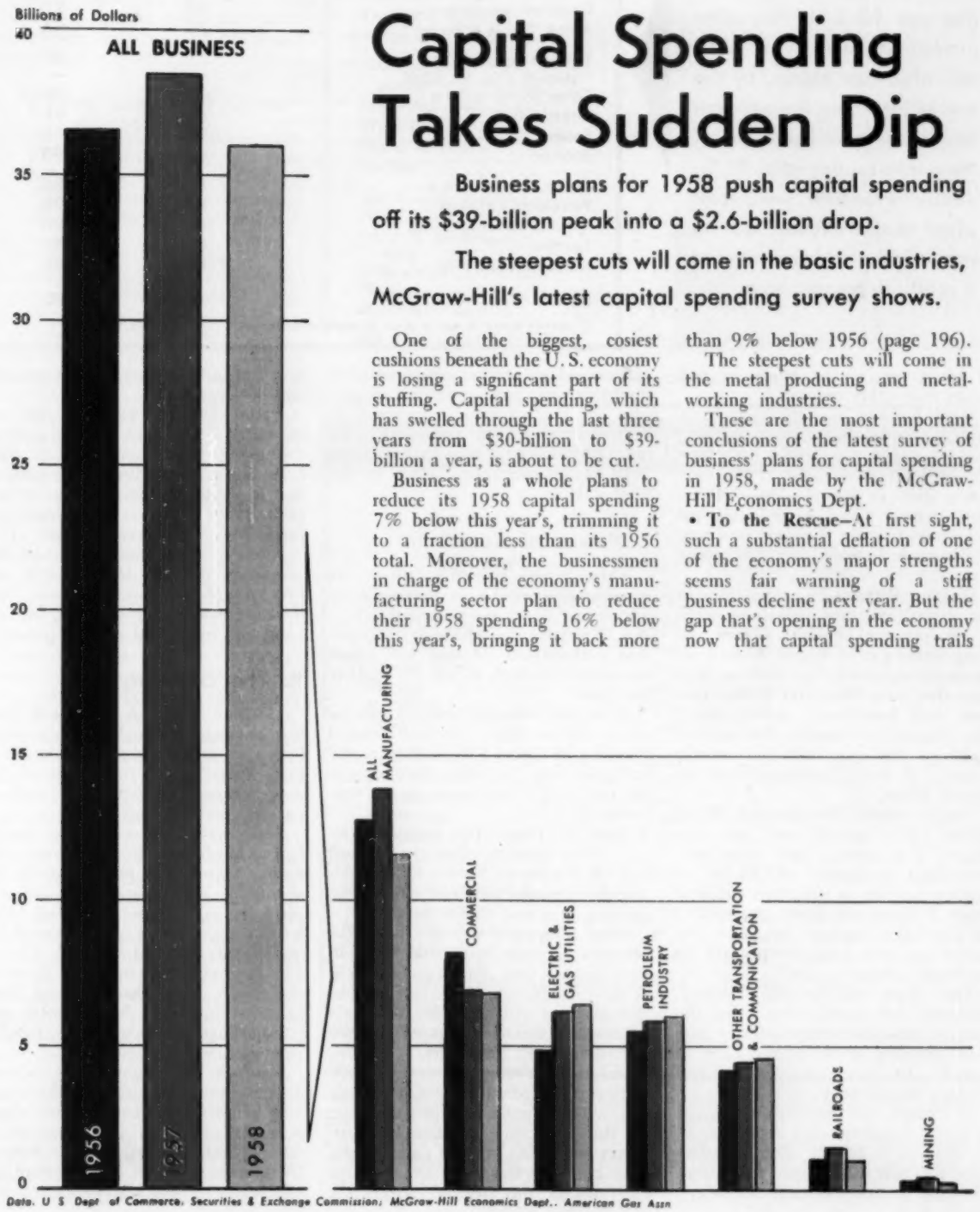
One of the biggest, cosiest cushions beneath the U. S. economy is losing a significant part of its stuffing. Capital spending, which has swelled through the last three years from $30-billion to $39-billion a year, is about to be cut.

Business as a whole plans to reduce its 1958 capital spending 7% below this year's, trimming it to a fraction less than its 1956 total. Moreover, the businessmen in charge of the economy's manufacturing sector plan to reduce their 1958 spending 16% below this year's, bringing it back more than 9% below 1956 (page 196).

The steepest cuts will come in the metal producing and metal-working industries.

These are the most important conclusions of the latest survey of business' plans for capital spending in 1958, made by the McGraw-Hill Economics Dept.

• **To the Rescue**—At first sight, such a substantial deflation of one of the economy's major strengths seems fair warning of a stiff business decline next year. But the gap that's opening in the economy now that capital spending trails



Data: U. S. Dept. of Commerce; Securities & Exchange Commission; McGraw-Hill Economics Dept.; American Gas Assn.

One big reason why business is cutting expansion is that its plants are operating slower than most managements prefer. Two years ago, industry was running at an average 92% of capacity; manufacturers even used old, high-cost plants. By the end of last year, the average operating rate was 86%. Now it has dropped to 82%. Today, some new, lower-cost plant capacity is idle. But no major industry is running at a really depressed rate.

CAPACITY

INDUSTRY	Actual Rate of Operation (Sept. 1957)	Preferred Rate of Operation (Dec. 1956)
Iron & Steel	84%	96%
Nonferrous Metals	80	89
Machinery	80	89
Electrical Machinery	83	91
Autos, Trucks & Parts *	79	NA
Transportation Eqpt. (Aircraft, Ships, R.R. Eqpt.)	77	85
Other Metalworking	80	88
Chemicals	82	92
Paper	90	95
Rubber	88	90
Stone, Clay & Glass	85	86
Petroleum Refining	90	95
Food & Beverages	80	90
Textiles	82	93
Miscellaneous Mfg.	82	88
ALL MANUFACTURING	82	90

* Survey made in month prior to model changeover. NA — not available

off could possibly be offset by new money from other sources.

Many business analysts foresee substantial gains in federal and state and local government spending next year. The more optimistic analysts also forecast a gain in homebuilding. If all three sources spend more next year they could take up the slack produced by the dip in business' capital spending (page 27).

• **Shifting Pattern**—For more than a year capital spending withstood much of the pressure of tight money and rising interest rates. Credit became increasingly expensive, but business kept borrowing more than ever to buy new plant and equipment; managements' sales forecasts indicated a demand that could be met only with the greater capacity of newly equipped and expanded plants.

Now the pattern has changed. Much of the extra capacity and new machinery is in place. And meanwhile, production has leveled off. In an increasing number of industries the new plants and new machines are running not just below capacity but below the slower rate that management calls its "preferred operating rate."

• **The Cuts**—McGraw-Hill's survey, conducted last month, shows that the nation's manufacturing industry was then operating at an average 82% of capacity. Its preferred operating rate averages around 90%.

As a result, the survey shows, almost all major industries—and companies of all sizes—have lopped their spending plans for next year. Only four major industrial groups—electrical machinery, electric and gas utilities, petroleum, and transportation and communications—plan any kind of increase in spending next year. And most companies in almost every industry plan to hold their 1959 capital investment down to the level of 1958.

I. Power of Research

Thus capital spending, which six months ago seemed to be moving along a high and slowly rising plateau (BW—Apr.27'57,p41), has suddenly thumped into a chuckhole. It may not regain momentum enough to rise for another two years.

It has not, however, dropped into an abyss. Next year's planned capital spending of almost $36.1-billion is still far higher than the money that business put into capital investment in any year before 1956.

• **Store of Hope**—And industry's reports of its spending plans give a broad hint for the future: Money for research and development programs will not be skimped next year (table, page 26).

Most companies will put the same amounts—or more—into this work in 1958 as they have this year. Only 5% of the companies surveyed in all industries say they will spend less next year for research and development. Electrical equipment, machinery, chemical, paper, and rubber producers will seek more determinedly than ever new products and new processes. (But reflecting the shift of defense emphasis from airplanes to missiles, and, in part, government cuts in research spending, almost one-third of the airplane makers say they'll spend less next year on research and development.)

• **Payoff**—The hint in this slightly rising outlay for research is broad because the prime conclusion you can draw from business spending on research is that it will lead to development of new products for which, in many cases, new production plants must be built.

Already, more than a third of the companies McGraw-Hill surveyed say they expect their research will lead them into substantial spending for new plant and equipment in 1959 or later.

II. The Growing Gap

While it waits for the payoff from this unceasing research, business must live with immediate conditions. And that means halting the growth of the gap between its productive capacity and its actual production.

Since 1950, the nation has added half as much again to its productive capacity, boosting it pretty steadily by about 7% each year. Plenty of new plant was in place by the end of 1954, but it wasn't enough to take care of the great boom year that followed. During 1955, manufacturers in almost all major industrial groups had to run their plants at full blast, had to press into service their older, high-cost, standby plants to meet demand.

Through 1955, another 7% increase in capacity was in place. At the beginning of 1956, industry was back where it wanted to be—it could operate at 90% of capacity, keep 10% in reserve. Its spending turned more toward replacement of machinery than expan-

sion of plants. Through 1956, spending was pretty evenly divided between replacement and expansion.

• **Production's Dip**—But then production's upward sweep slowed. Now it's slipping.

The Federal Reserve Board's index of industrial production shows it: From an average 146 from October last year to March, the index is down to an average 144 from April to September. The dip is a little less than 1½%. But its effect is greater than the figure sounds when you add in the concurrent expansion of capacity.

III. Where Cuts Will Come

McGraw-Hill's survey, looking at business' plans industry by industry, finds that the industries that have whittled down farthest in their 1958 spending plans are those that turn out basic materials.

The steel industry, after four years of constantly increasing capital spending, is chopping its 1958 plans 24% below this year's. Nonferrous metals are down 38%; machinery, down 17%.

Detroit's auto makers, who shaved their capital spending this year 29% below 1956's, aim at another 30% cut next year. This will bring their spending back to less than half of its 1956 level.

• **Some Foreseen**—Some of these cuts were foreseen by the industries themselves long ago.

The steel and nonferrous metals companies planned almost a year ago to reduce their spending in 1958. Oversupply in the nonferrous field and idle capacity for the last several months in steel simply underline those intentions.

• **Some Surprises**—In many other industries, manufacturers have had to reduce their 1958 spending plans more than they anticipated six months ago.

The industries that use metal rather than produce it are planning sharp cuts: transportation equipment, down 16%; metalworking machinery, down 38%; construction machinery, down 20%. Aircraft cutbacks figure in the reduced plans of the transportation equipment makers, and construction machinery manufacturers seem to have built too much too soon for a highway program that has been slow in materializing.

Papermakers, who in April estimated a 5% increase in their 1958 spending (BW—Apr.27'58,p41), have wound up with plans for a 24% slice. (Though their plants are running at 90% of capacity, they were plagued through the first half of the year by excess capacity, and they're approaching 1958 cautiously.)

Not surprisingly, the long-buffeted textile industry follows the trend; it plans a 20% cut in spending.

And the railroads, pressed harder than ever by low earnings, low borrowing power, and falling freight traffic, plan a 27% cut in their spending.

• **The Gainers**—Among all the major manufacturing groups, only electrical machinery makers and petroleum refiners are preparing to increase their spending next year.

Not all electrical machinery makers, of course, are planning spending increases—those that make appliances, radios, and TV sets aim at a 9% reduc-

MANUFACTURERS lop their spending plans

(Millions of Dollars)

INDUSTRY	1956	1957 Estimated	1958 Planned	1957-58 Percent Change
Iron & Steel	$1,336	$1,857	$1,411	−24%
Nonferrous Metals	601	944	585	−38
Machinery	1,078	1,257	1,047	−17
Electrical Machinery	603	653	738	+13
Autos, Trucks & Parts	1,689	1,194	836	−30
Transportation Eqpt. (Aircraft, Ships, R.R. Eqpt.)	440	596	501	−16
Other Metalworking	887	866	623	−28
Chemicals	1,455	1,795	1,723	− 4
Paper & Pulp	801	847	644	−24
Rubber	201	208	193	− 7
Stone, Clay & Glass	686	604	552	− 9
Petroleum Refining	711	889	933	+ 5
Food & Beverages	799	828	749	−10
Food	580	609	527	−13
Beverages	219	219	222	+ 1
Textiles	465	397	306	−23
Miscellaneous Mfg.	1,035	969	773	−20
ALL MANUFACTURING	**12,787**	**13,904**	**11,614**	**−16**

Data: Dept. of Commerce, Securities & Exchange Commission, McGraw-Hill Economics Dept.

NONMANUFACTURING faces a smaller dip

(Millions of Dollars)

INDUSTRY	1956	1957 Estimated	1958 Planned	1957-58 Percent Change
Petroleum Industry	$5,531	$5,962	$6,038	+ 1%
Production	4,066	4,188	4,272	+ 2
Transportation	261	392	337	−14
**Refining*	*711*	*889*	*933*	*+ 5*
Marketing	426	430	434	+ 1
Other	67	63	62	− 2
Mining	443	460	375	−18
Coal	257	224	146	−35
Iron Ore	45	68	75	+10
Nonferrous	86	103	79	−23
Nonmetallic	55	65	75	+15
Railroads	1,231	1,457	1,064	−27
Other Transportation & Communications	4,229	4,530	4,575	+ 1
Electric & Gas Utilities	4,895	6,254	6,441	+ 3
Commercial	8,236	6,955	6,885	− 1
TOTAL NONMANUFACTURING	**23,854**	**24,729**	**24,445**	**− 1**

Data: Dept. of Commerce, Securities & Exchange Commission, McGraw-Hill Economics Dept., American Gas Assn.

** Nonmanufacturing total excludes petroleum refining*

tion. But their lower spending is more than offset by the planning for expansion that has been made in companies that manufacture heavy electrical equipment (turbines, generators, and so on) and electronics equipment. Many electronic makers are involved 90% in defense business, and despite cutbacks and stretchouts, they're running their plants at close to capacity rates.

Petroleum refiners plan a 5% increase in their spending next year. Since the end of the Suez crisis, these refiners have frequently been alarmed at the size of their gasoline inventories. But the increase they're planning for next year reflects more the basic nature of their business than the inventories of any one of their products. Research in refinery labs leads constantly to new or altered products for which plant expansions and additions have to be made.

The same goes for the chemical and rubber industries. And, in these, capital spending should hold to almost the same rates as this year: Chemical companies plan only a 4% dip, rubber producers, a 7% reduction.

• **Less Pressure**—Nonmanufacturing industry is under less pressure than business' manufacturing sector. Railroads and some parts of the mining industry plan steep reductions next year, but they're offset by spending increases planned in other industries.

Iron mining companies plan a 10% increase for 1958. Not included in this are the funds that will go into taconite and other low-grade ores and beneficiation plants.

The steadiest spenders of them all are the electric and gas utilities. This year they're spending more than $6-billion on new plant and equipment; next year they'll spend almost $6.5-billion. To meet the nation's hunger for more and more power, the utilities plan to keep buying $6-billion worth of new equipment and plant a year in 1959 and 1960.

Commercial companies, after an $8-billion splurge in 1956, chopped their 1957 plans sharply—from another $8.5-billion back to only $6.9-billion. Next year, they plan to spend only $6.8-billion, and they plan to keep cutting in 1959.

The commercial companies surveyed by McGraw-Hill are primarily supermarket chains, department stores, banks, and insurance companies. The dip in their spending plans reflects largely the squeeze on mortgage credit.

IV. Prices' Added Pinch

In figuring the effects of all of industry's capital spending plans for next year, you have to consider rising prices. But it's impossible to find an accurate deflator that will allow for increases in capital goods prices. The product of capital spending changes constantly; the cost of a barely automated plant built 10 years ago cannot reasonably be compared with that of a highly automated plant built this year.

Yet the fact of increases in the prices of capital goods remains. So business will certainly get a good deal less physical plant for the $36.1-billion it plans to spend next year than for the $36.6-billion it spent in 1956. Physical plant put in place will be a lot less than just the 1½% decline in the funds that business spends.

• **Comparing Figures**—The spending plans reported in this McGraw-Hill survey are not all firm. Many companies don't fix their expansion spending firmly until later in the year. But by last month enough companies had drawn precise plans for their 1958 spending to show accurately the trend of capital investment. The companies surveyed are primarily the larger ones in their industrial groups. McGraw-Hill's survey of capital spending plans cannot be directly compared with the Commerce Dept.'s survey (BW—Sep.14'57,p23). Dollar estimates of McGraw-Hill's survey run higher than the Commerce Dept.'s because of differences in industry classifications. And the fact that the companies participating in the McGraw-Hill survey are usually the larger companies in their industrial groups may affect the survey's results.

RESEARCH spending by most companies will stay high

Percentage of companies whose research spending will be

INDUSTRY	MORE than in '57	LESS than in '57	SAME as in '57
Primary Metals	34%	9%	57%
Machinery	43	8	49
Electrical Eqpt.	64	2	34
Aircraft & Parts	18	27	55
Fabricated Metal Products	44	0	56
Scientific Instruments	33	11	56
Chemicals & Allied Products	57	0	43
Paper & Allied Products	65	4	31
Rubber Products	55	0	45
Stone, Clay & Glass	22	0	78
Petroleum Products	33	0	67
Food Products	40	3	57
Textile Products & Apparel	25	3	72
Other Manufacturing*	37	8	55
ALL MANUFACTURING	41	5	54
Non-Mfg. Industries	29	5	66
ALL INDUSTRIES	38	5	57

*Includes autos, tobacco, lumber & wood products, furniture, printing & publishing, transportation equipment other than aircraft and autos, miscellaneous manufacturing industries.

Some 38% of companies think research will prompt substantial spending for NEW PLANTS IN 1959 and later

Percentage of companies that think their research

INDUSTRY	WILL prompt new plant spending	WON'T prompt new plant spending
Primary Metals	45%	55%
Machinery	28	72
Electrical Eqpt.	60	40
Aircraft and Parts	50	50
Fabricated Metal Products	31	69
Scientific Instruments	59	41
Chemicals & Allied Products	65	35
Paper & Allied Products	42	58
Rubber Products	91	9
Stone, Clay & Glass	35	65
Petroleum Products	50	50
Food Products	38	62
Textile Products & Apparel	18	82
Other Manufacturing	26	74
ALL MANUFACTURING	38	62
Non-Mfg. Industries	38	62
ALL INDUSTRIES	38	62

Forces That Could Avert a Dip

As capital spending goes down, government spending—federal, state, and local—and homebuilding may rise.

Does the prospective decline in private capital spending mean a corresponding dip in business activity in 1958?

Many business analysts—anticipating the decrease in capital spending now confirmed by the McGraw-Hill survey—have tried to gauge the effects of this development on next year's business. The obvious question is whether other types of spending in the economy will increase to offset the effects of the downturn in capital outlays—at least in part.

• **Three Other Factors**—Charted at right are the past performances of three likely candidates for this stabilizing role: federal spending, state and local government purchases, and residential construction. (They are charted against the comparable figures on capital spending from the Commerce Dept.)

Right now, these three factors are regarded as the best bets to bolster the economy. They could have a leverage effect to offset the decrease in private capital expenditures. Without help from these sources, the decline in capital spending could exert a downpull throughout the economy.

• **Chances Are**—How likely is it that these spending flows will increase? Here's how things look right now:

Federal spending. Uncle Sam's purchases of goods and services are running at an annual rate of about $51-billion. This includes only sums that the government itself spends for military purposes and general housekeeping. It doesn't include such things as interest on the national debt, veterans' pensions, and soil bank payments.

When you count all items in the federal budget, plus outlays out of government funds outside the regular budget, you get what's known as the "cash budget." The latter covers all federal payments to and receipts from the public.

Despite efforts to cut down spending, total Treasury outgo in the third quarter ran $2.8-billion more than in the year-ago period. And for the current calendar year, the total outgo of $83-billion will be about $8-billion more than in 1956. With substantial increases in military spending becoming more and more likely and Social Security benefit payments still rising, a further swelling of cash budget outgo is certain for next year.

State and local government. Spending by states and municipalities has registered a steady gain of almost $3-billion a year in the last five years. Increasing population has been the main factor here, with growing costs of education only the most striking feature. Both capital outlays and employment by these governmental units are on the same upward trend.

Capital outlays by these units already run more than $12-billion a year, while payrolls total about $20-billion. Next year, total spending by these state and local units should increase another $3-billion from this year's $36-billion total, plus another $1-billion being spent from federal funds for the highway program (already included in the federal cash budget above).

Residential construction. Prospects for homebuilding next year are a subject of wide disagreement among housing experts. While some see little prospect for any gain over this year's likely total of about 975,000 private housing starts, more optimistic analysts see a gain of 50,000 to 125,000 units.

Any increase, of course, would depend on continued high consumer income and easier money conditions. The lower rate of business capital spending could mean less competition for funds that might go into residential mortgages. More demolitions for urban renewal and highway programs, a slightly higher rate of family formations, and low vacancy rates are cited as reasons for believing that homebuilding would increase if mortgage terms were "right."

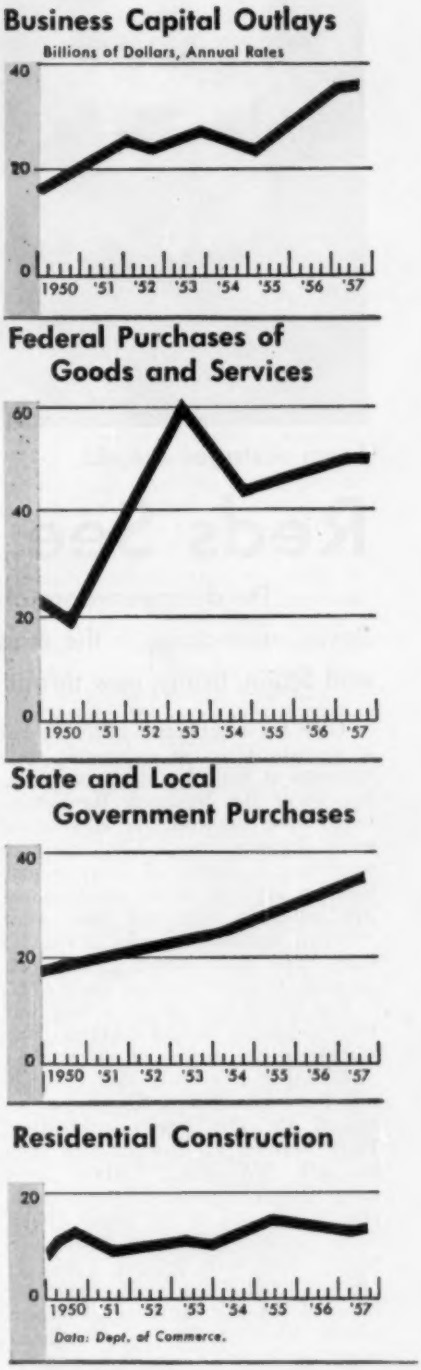
Thus, spending for homes might remain at the present rate of about $14-billion or might rise to $16-billion. Any large gain, of course, would be important in employment and would have a potent impact on the lumber industry as well as makers of building materials, supplies, and furnishings.

• **Three More Unknowns**—These three kinds of spending appear most likely to increase, but there are other factors that might swing either way, depending on how the business pattern develops. Most important of these are:

Inventories, which could reinforce the downswing in capital spending and create a further gap for other spending to fill. But if economic activity maintains a roughly even keel, inventories too may remain fairly steady at present levels.

Consumer durables, such as new autos and appliances, on which more money could be spent if personal income continues to rise. However, such purchases could just as easily dip if employment and personal income should falter.

Export volume, which already shows signs of weakening. If the level of imports, largely dependent on the level of domestic business, should also decline, a further drop in exports could follow.



Lenin destroyed the old.

Stalin entrenched the new.

Now it's Khrushchev's turn.

Reds See Goals Within Reach

The disappearance of Zhukov from power and the new Soviet ascendancy in the skies makes Khrushchev heir to Lenin and Stalin, brings new threat to West.

There has never been a political event in modern times so elaborately staged managed as the 40th anniversary celebration of the Bolshevik Revolution. In Moscow this week, the Communist world's big-wigs (except Tito) have been witnessing a display of spacemanship that has kept the whole non-Communist world on edge—and made some Western diplomats wonder if Russia's reach into space hasn't given Communism its greatest victory since 1917.

You would have to go a long way back in history to find anything comparable to the display of sheer power—national and personal—that Communist Party boss Nikita Khrushchev arranged for this week's celebration. With Marshal Zhukov removed from his path (BW—Nov.2'57,p149), there can no longer be any doubt that Khrushchev is top dog in the Soviet Union—the established heir to Lenin and Stalin. And with Sputnik I and II orbiting around the world, there can be no doubt that the Soviet Union is rapidly achieving the kind of military advantage Hitler's Germany had on the eve of Munich.

• **Kremlin's Program**—From everything Khrushchev has said and done during the years of his meteoric rise to power, it looks as though he has a program of action that is at least as menacing to Western civilization as Hitler's was. Khrushchev's program seems to be based on calculations such as these:

• Moscow has all but won the cold war, and the balance of power, both military and political, has shifted to the Communist side.

• With the aid of Sputnik diplomacy, Moscow thinks it will not be hard to conduct a mopping-up operation during the next decade in Europe, Asia, and Africa.

• By the 50th anniversary of the Bolshevik Revolution, at the latest, the Kremlin expects the entire Eurasian-African land mass to be under its control—and Moscow will then be set to complete the encirclement of the U. S.

I. Problem for the West

Naturally, the West doesn't accept Khrushchev's program for the future. But, for the first time since Korea, there is a sense of alarm in the key Western capitals—Washington, London, Paris, and Bonn. There is a feeling that Khrushchev will use Sputnik diplomacy to ride roughshod over Western interests all around the periphery of the Communist empire. Certainly Turkey will be under pressure again. And probably Berlin will feel it, too. Then, it's not hard to imagine that Khrushchev and Red China's Mao Tse-tung have taken advantage of the Moscow festivities to decide where Communism can make new gains in the Far East.

In Washington, the big decisions still have to be made—whether to launch a crash program for missiles, perhaps shifting completely from aircraft to rockets; whether to forget quite natural and legitimate national habits for the sake of a scientific pool with Britain and other NATO powers. Despite the lack of decision by the White House, serious consideration now is being given to such questions.

In London, there is a feeling that some dramatic demonstration of Western unity is urgently needed if the Middle East, Asia, and Africa aren't to fall into the hands of Moscow. London observers say the West must do something for the raw material producing countries, which are suffering from a trade recession originating in the West. This cuts down development plans on which great hopes have been centered. At the same time, the Macmillan government is so concerned by the insecurity of its Middle East oil supplies that it is studying plans for backing development of the Athabasca tar sands in northern Alberta and Saskatchewan, Canada.

In Paris at NATO headquarters, Secy. Gen. Spaak has returned from the U. S. convinced that the West must do more than talk about unity. He is sure that the Atlantic nations must actually unify their military, political, and economic strength if NATO is to survive.

• **Real Danger**—Some Western observers still argue that a program like Khrushchev's, even if he believes in it, is nothing but a Communist pipedream.

But the majority of experts on the Soviet Union don't share this view. The latter point to what's happened in Russia during the last 40 years, especially during the last 10 or 12, and argue that the danger for the West is all too real.

II. Russia's Achievements

History shows that the several hundred conspirators who grabbed control of St. Petersburg in 1917 achieved their goal only because their leaders, especially Lenin and Trotsky, were the boldest kind of gamblers. Yet the Communist Party today rules the largest empire in history and possesses a military machine that is capable of challenging the U.S., plus all its allies. In 40 years, the Communists have transformed a backward country into the second industrial power in the world; in that time, it has taken a scientific and technological lead over the U.S. in several important fields.

• **Power Struggle**—The Communists have failed, of course, to create the classless paradise they promised. But that's really beside the point. The essence of Soviet Communism, from Lenin to Khrushchev, has been possession of power. And today Khrushchev wields the kind of power—inside Russia and in the world—that only Alexander the Great and Caesar possessed. Even more than Stalin, Khrushchev possesses power based on the massive scientific, technological, and industrial developments the Russian people have managed to achieve since World War II. When you think back to the condition of the Soviet Union in 1945, these developments almost stagger the imagination.

Just as grabbing power is the inevitable goal of all Communists, so dividing the non-Communist nations is one of the basic Communist stratagems. Lenin pointed to the advantages of Western disunity when he said that the Bolsheviks could never have won their revolution if "the imperialist world" had not been divided. One of the main objects of Communist strategy in the following decades has been to keep the non-Communist world divided. Whether by design or good luck, the Communists in 1939 again found the non-Communist world split into two irreconcilable camps. As a result of this civil war within the West, Russia emerged as the real victor of World War II.

• **Three in the Kremlin**—If you wanted to characterize Lenin, Stalin, and Khrushchev in simple terms, you could do it this way:

• Lenin was the revolutionary gambler who destroyed the old order in Russia and set that vast country firmly on the path of Communism.

• Stalin was the crafty politician who knew how to seize power and to squeeze enough capital out of the people to make Russia an industrial power.

• Khrushchev is another gambler, who has reached the top by taking one huge chance after another. He may now be prepared to take the same kind of gamble on the international scene.

• **Khrushchev's Parlays**—Run down the high points in Khrushchev's rise to power, and you can see that he is much more of a gambler than Stalin.

In 1953, soon after Stalin's death, Khrushchev conspired for the downfall of Beria, even though that might have jeopardized the Soviet regime itself. For the destruction of Beria's MVD, on which party control rested, could have opened the gates for revolution.

In 1955 Khrushchev launched his virgin lands scheme in Siberia and Kazakhstan. This has been described as the boldest economic gamble of the 20th Century.

In 1956, at the 20th party congress, Khrushchev made his famous de-Stalinization speech, intended to gain the support of the discontents of the Stalin era—the Red Army officers, the industrial managers, and the vast bulk of the population. But in doing so Khrushchev ran the risk of demoralizing the party machine, where his main support lay.

In 1957, after having steadily increased the power of Marshal Zhukov, Khrushchev used Zhukov to get rid of his enemies (Molotov, Malenkov, and Kaganovich) and to destroy the collective leadership. Then, when Soviet scientists launched Sputnik, Khrushchev was able to knock off Zhukov.

Sometime during those years, Khrushchev took an economic and technological gamble at least equal in importance to the others. He sacrificed the heavy industry goals of the sixth Five-Year Plan in order to devote more resources to the Soviet missile program. It was this gamble that paid off with Sputniks I and II. All in all, his climb to power in Russia during the nearly five years since Stalin died makes an impressive record—one that Stalin might have envied.

III. Where Next?

Khrushchev makes no bones about the fact that he intends to push back Western influence everywhere in the world. He undoubtedly believes one of his most famous boasts: "We shall bury you."

Now that Khrushchev is in control of the Kremlin, he is likely to put the whole Western world, especially the U.S., under constant pressure. He may even keep us in a state of permanent alert. His record reveals a man who knows how to use both relentless pressure and the utmost guile against his enemies.

This doesn't mean that Khrushchev will risk World War III to attain his ends. Now that he is on top, and Russia has seized the lead in the new era of space travel, it seems unlikely that Khrushchev would want to see the H-bombs fall. But he can be expected to push the West constantly and perhaps risk local wars, using the Soviet advantage in missiles to neutralize American nuclear power. Even NATO may be vulnerable to the new Soviet pressure.

Moscow already has scored a tremendous psychological victory with Sputniks I and II. And the Russians may soon be using this victory, plus their technological prowess in other fields, to crowd the West economically in the underdeveloped countries. There can no longer be any doubt about Soviet production capabilities, whether in earth satellites or jet airliners.

As for total industrial production in the U.S.S.R., that is to be expanded in the next 15 years to the present U.S. production level. That, at least, is the promise Khrushchev made this week in his anniversary speech to the Supreme Soviet. During the same period, Khrushchev maintained, both personal consumption and housing would also receive attention—though without "infringing upon the requirements of defense and heavy industry."

• **Close Control**—Western observers now are taking Khrushchev's boasts more seriously than they used to. They suspect that at least some of his ambitious production goals can be reached. But they do maintain that to achieve them Khrushchev will have to keep a mighty tight rein on the political and economic life of the Soviet Union.

On the political side, it looks as if Stalin's heir will have to revive the power of the secret police. Restoration of party control over the armed forces, the issue on which Zhukov fell, almost certainly will necessitate this. So will Khrushchev's plan to centralize power in the Communist Party as against the state bureaucracy. He can't afford to see the state bureaucrats again acquire the kind of power they had when Malenkov was premier. It's even possible that the secret police power will have to be restored to a point where Gen. Serov, boss of the MVD, becomes the No. 2 man in the U.S.S.R. just as Beria was under Stalin.

Khrushchev may well return to one of the pet schemes of his earlier days—turning Russia's collective farms all into state farm factories and Russia's collective farm peasants all into rural wage earners. In fact, it seems quite likely that Khrushchev will apply as much social engineering to the Russian people as Stalin ever did.

The Battle for Outer Space

So far, the Russians are far ahead of the West. Their Sputnik II was even more impressive than their first. But even their rocket-to-the-moon project leaves questions.

Russia's launching of the dog-bearing Sputnik II last weekend confirmed to U.S. scientists what Sputnik I had strongly suggested—that the Space Age is really here and that Russian experts have achieved, as they claim, a solid mastery of missile technology.

Sputnik II followed Sputnik I by a mere 29 days; man's first rocket to the moon was expected to be close behind. Meanwhile, the U.S. and the rest of the Western world were still sitting on the sidelines as spectators.

• **Military Meaning**—Foremost American rocket and missile experts are perhaps more impressed than the general public. Whether Russian reference to "a new source of power" means a new type of battery for the satellite's transmitter or a new type of chemical rocket fuels, or both, the fact that Russia was able to put a 1,120-lb. cylinder into a prescribed orbit at a speed of 17,840 mph. has the gravest military implications.

Some of these implications:

Russia must have a stockpile of long-range missiles ready for immediate use. Not even the most modern industrial plant could have built the highly complicated Sputnik II rocket, which must have weighed around 200 tons at firing, in the time since Sputnik I was launched. Some modifications might have been made, but the components must have been on hand. So it may be true, as Moscow claims, that ICBMs are in the arsenal of the Red Army.

Russia must be far ahead of us in development of rocket fuels. To put a half-ton satellite into an orbit that at one point rises as high as 1,056 mi. calls for controlled thrusts in the area of 500,000 lb. In contrast, the U.S. is still struggling to get a thrust of 350,000 lb. to push its first ICBM, the Atlas, into the air.

Russia must have a high skill in engineering and control-guidance systems. Unlike the U.S., it apparently can fire missiles in quick succession with consistently good results.

• **Menacing Monster**—In its size alone—about 50 ft. long—the dog-carrying space ship suggests staggering possibilities:

• This third-stage rocket that's circling the globe is far larger than anything the U.S. proposes to launch. The U.S. third-stage Vanguard rocket is a mere 7 ft. long, yet it will take one of the biggest rockets in the hands of our troops to launch it.

• The Russians may be able to set up a defense system against IRBMs and ICBMs before the U.S. ever gets its long-range missiles perfected.

Any earth-circling object the size of Sputnik II could, scientists point out, fairly easily be used as a platform for a high-altitude radar camera. This could detect the firing of a long-range missile from anywhere on earth and relay information to interceptor-missile bases.

As an offensive military post, such a satellite, equipped with infrared and television cameras, could locate targets or serve as a guidance center for missile launchings.

• **Nuclear Powered?**—An even more sobering, though not so widely credited, possibility is that the Russians have used atomic fission or fusion to help drive their second satellite aloft.

The weight of Sputnik II favors this possibility. Many U.S. scientists doubt that conventional chemical fuels—even the exotic fuels containing lithium, boron, hydrogen—could provide enough thrust for their weight to put a half-ton object 1,000 mi. into the sky. This might mean that something else—the "new source of power" referred to by Moscow—helped drive Sputnik II. Such a source might be atomic energy, some science-fiction anti-gravity device, or even ion propulsion—propulsion by ion or light beams.

Other scientists read less into the "new source of power" phrase and into the admittedly impressive performance of the rockets. When the Russians spoke of a new source of power, these scientists say, they probably meant an engineering improvement in conventional rocket engines—not an entirely new source of energy.

Such an achievement would be a creditable scientific advance, but nothing comparable to the development of the first nuclear-powered rocket.

• **Next World to Conquer**—A rocket to the moon was obviously the next milestone for Soviet science to aim at. As a famous German-born rocket expert pointed out, firing another satellite with animal passengers wouldn't have much worldwide psychological impact at this point—it would be much like the running of just another four-minute mile.

To illuminate their technical superiority in rocketry for all the world to see, the Russians had several logical choices. Mere repetition of what has already been done wouldn't stir up much new excitement. They could, of course, prove their conquest of the re-entry problem by bringing a high-soaring rocket back to earth. Or they could send up a man instead of an animal. Or they could fire a rocket to the moon.

Firing a rocket to the moon seemed to offer Russian science no insuperable problem, considering the Sputnik achievements. Technically speaking, all the Russians would have to do is give a rocket with a small pay load a speed of seven miles per second, to allow it to escape the earth's gravitational pull. It would also have to be aimed, timed, and controlled precisely to hit its target. And some way of indicating that it had landed would be desirable.

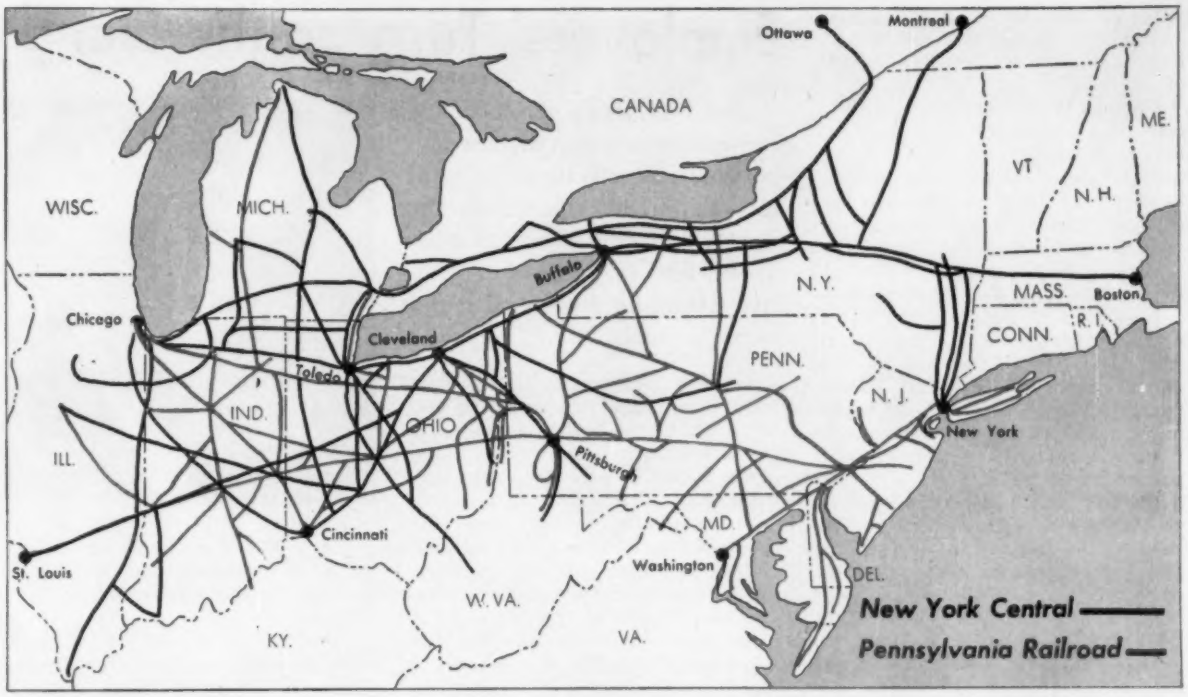
On the first point, Soviet rocket men proved with Sputnik II that they could provide thrust of around 500,000 lb.—sufficient for a moon rocket equipped with a small bomb to explode on contact. (In the dark of the moon, as in Thursday's total eclipse visible in Asia and eastern Europe, a bomb flash could far exceed the brightness of the full moon itself, an eminent U.S. scientist said this week.) And they have shown that their control-guidance technology is highly precise.

• **The Harder Problem**—Indeed, some American experts say, hitting the moon with a missile is infinitely easier than bringing an ICBM precisely down on target on the earth at a range of 5,000 mi. Returning the missile through the earth's atmosphere—the re-entry problem—is a devilishly difficult trick.

Successful re-entry involves coping with fantastically high temperatures caused by friction between the missile and the progressively denser air particles. It involves some sort of braking action and a choice of precise angle of re-entry, so the missile won't burn up like a meteor before it reaches its target on earth.

Some Russian radio reports this week hinted at solution to this problem. The first space passenger—a little Husky dog named Laika—might be catapulted back to earth for further scientific study, the broadcasts said. American missile experts commented that return of the dog by ejection of a self-contained rocket in Sputnik II, or by other means known to the U.S., wouldn't necessarily mean that the Russians have solved the problem of re-entry of an ICBM.

Besides, the dog might be returned to any spot on the globe, at random. This would have little if any application to military problems. However, both this return and the firing of a rocket to the moon could have an immense effect on the public and scientific mind in the West, and on the Soviet Union's political bargaining power (page 28).



Wedding May Be Long Way Off

Presidents of Pennsy and New York Central planted the idea last week, and the railroad and financial worlds are still buzzing. But a merger couldn't happen in a hurry.

Last week, the presidents of the two railroads with the largest assets and gross revenues in the U.S.—the Pennsylvania and New York Central—announced they had begun studies looking toward a possible merger.

After issuing their two-and-a-half page statement outlining the reasons for the move, the Pennsy's James M. Symes and the Central's Alfred E. Perlman retired behind a wall of silence to see how big an explosion they had touched off. Initially, it was spectacular.

• **Quick Reaction**—One of the best-kept secrets in recent corporate history, the news brought forth a shower of statements from Congress, from labor, from other railroads, from truckers and from Wall Street. Some thought it was a good idea, others thought is was dreadful. A few doubted the sincerity of the announcement. On one point everyone agreed, however. If there ever is a full merger, it will be years off.

In the days following the announcement, when it became clear there would be no amplification, there was nothing left to do but indulge in speculation. And last week there was plenty of that.

• **Red Herring?**—On the Street, there was talk that this might be a plot to divert stockholder attention away from this year's depressing earnings statements for the two roads. For the first nine months, the Pennsy reported net income of $19.6-million compared with $31.3-million for the similar period a year ago. The Central's net plunged to under $8.8-million from $28.2-million in the 1956 period.

• **Trial Balloon?**—Another theory is that the two roads made the announcement for its shock value. The industry in general and these two roads in particular have long insisted that railroads are over-regulated, over-taxed, and under-compensated. The dramatic announcement of merger talk by the nation's two biggest and at one time most competitive roads might be meant to focus public attention on the industry's plight.

Others saw the move as primarily a trial balloon. They believe the obstacles to a complete merger are far too great. The purpose of the announcement, they think, is to determine from the reaction of the public, labor, and government how far the two can go toward agreements on joint use of tracks, yards, and stations.

• **Maybe Mean It**—Finally, there was a large body of opinion, especially among railroaders, that was sure Symes and Perlman mean every word they said. Both presidents have long warned that railroads face nationalization in the not too distant future if they don't receive help or take dramatic steps to help themselves (BW—Jul.13'57,p84).

The chances are that all these thoughts must have occurred to the two presidents. They probably thought they had much to gain and little to lose by making the announcement at this time and in the startling fashion that they did.

• **Much to Gain**—Taking their statement at its face value and assuming the Pennsy and Central will now begin studying the practicability of a full-blown corporate merger, there are several pros and cons to be considered.

Railroad consolidation is very much on the industry's mind.

Two Southern roads have recently acquired neighboring roads—a type of "end-to-end merger" that has found more favor with the Interstate Commerce Commission than the joining of former competitors. Two groups of roads—one including the Lackawanna, Erie, and Delaware & Hudson, and the other the Burlington, Great Northern, Northern Pacific, and Spokane, Portland & Seattle—have for years been studying merger.

Only this week the Missouri Pacific and Texas & Pacific announced they

were studying an end-to-end merger. The MoPac already owns all the preferred and 77% of the common stock of the T&P.

• **Cutting Waste**—The reason railroad executives in general think consolidation is a good idea is that diesel locomotives, radio communications, roller bearings, and other improvements have enabled railroads to haul more freight on less track. And the Pennsy and Central, for example, carry far less freight than they did 10 years ago.

In other words, in many places there is a huge and wasteful excess of capacity. Almost nowhere is this more true than on the Pennsy and Central. This is particularly evident on their branch lines, freight yards, and passenger stations—the three largest drains on a railroad's gross income.

Another reason why railroads are for consolidation was set forth in the joint statement by Perlman and Symes. "The principal competition for railroads today," they said, "is not so much other railroads, but other forms of transportation."

• **Disadvantages**—There are also reasons why a Pennsylvania-Central marriage might not be a good idea. Railroads, by their very nature, are spread out and hard to manage. While joining these two roads would do away with needless duplication at hundreds of places, there are thousands of miles of track that are noncompetitive. Management and communication problems would be that much greater for a combined road.

A corporate merger might also be too costly in time, effort, and money to be worthwhile. After all, no one thinks one of this size could go through without objection. Sen. Estes Kefauver (D-Tenn.) has already come out against it. Should the two lines merge and start ripping up track, they would almost certainly want to continue serving their old customers with railroad-owned trucks. This would unquestionably bring objections from truckers.

There's no doubt that competing railroads, too, will be there protecting their interests. And connecting roads also have a vital stake in the proceedings. The Pennsy and Central turn over thousands of cars a week to Western railroads. If the two joined, the consolidated road could conceivably be in a position to dictate what percentage of over-all rates it should get.

Each community served by the roads would have a right to object, and protective committees of stock and bondholders would certainly be out in full cry.

Moreover, to accomplish the merger, the two lines would have to make exhaustive studies costing as much as $1-million of their scanty cash supply and taking as long as five years.

Employers' Turn on the Stand

The first series of McClellan committee hearings on management practices in labor relations is over. From evidence on the doings of consultant Nathan Shefferman (right), new legislation affecting employers might possibly result.

The Senate racket investigating committee this week completed its first series of hearings into management practices. Out of them came some evidence that could lead to new legislative curbs on employers.

The committee, headed by Sen. John L. McClellan (D-Ark.), spent two weeks probing the affairs of 145 employers, big and small, who shared the services of Labor Relations Associates, Inc.—management adviser Nathan W. Shefferman's organization. A good portion of them also shared in the Shefferman techniques of fighting unions.

Of the 475 employer accounts handled by Shefferman's firm, committee investigators personally contacted 92 clients and talked to another 43. And of the 40 clients most important financially to Shefferman, McClellan revealed, 70% employed him to combat union organization. In 23 of these cases, Shefferman staffers directly helped employers keep unions out or bring friendly unions in.

I. How They Worked

Practices used by Shefferman on behalf of employers (BW—Nov.2'57,p41) included these:

• "Sweetheart" contracts.

• Payoffs through Shefferman agents to union agents to avoid organizing.

• "Soft" contracts negotiated between a company and union officers without employees' knowledge.

• Setting up anti-union committees among the workers, ferreting out pro-union employees, and the like.

At the finale, McClellan charged: "It is elements of management which must take the heavy blame for the activities which have been unfolded before this committee. It was the services which management desired which created the need for Nathan Shefferman with no compunctions or regrets until the revelations. . . ."

• **New Questions**—In a follow-up to the evidence, McClellan added three new issues to the legislative study now being made by the committee for presentation to Congress in January. These are:

• Whether any loopholes in Taft-Hartley allow employers and their agents too free a hand in resisting union organizing drives.

• Whether present laws are sufficient to curb employers from paying union officials to discourage organization.

• Whether new laws should be written to deal with the professional labor relations men.

II. The Committee's Evidence

Most of the McClellan committee's evidence on Shefferman's operations came from his own extensive books. Apparently Shefferman kept detailed and precise records on any type of service—from discount purchases for officials of labor and business to expense account items such as trips to the Rose Bowl and the races.

But while the records provided the clues, Shefferman himself declined this week to explain his actions to the committee. Both Shefferman and his son and business associate, Shelton, invoked the Fifth Amendment in answer to all questions—even in the face of charges that he was a notorious "union buster." Shefferman gave as his reason an indictment in Tacoma, Wash., where he and his son face charges of conspiring with retiring Teamster Pres. Dave Beck to evade income taxes.

• **Purchasing Agent**—Initially, Shefferman had appeared before the committee early this year as a close associate of Beck, for whom he bought wholesale goods with Teamsters union funds. In the current hearings, it came out that Shefferman bought $500,000 worth of merchandise at discount for 421 people in labor, management, and the government between 1948 and 1956.

The records showed that two of the buyers through Shefferman were Teamster Secy.-Treas. John English ($19,000

Sinclair on move in Canada

One of the most active and exciting oil areas today is Canada. And there, through Sinclair Canada Oil Company, the Sinclair organization is progressing rapidly.

Its oil production now averages 5,000 barrels daily and is still growing. Sinclair has become part owner of pipe lines moving Canadian crude and has a 40 per cent interest in a St. Paul, Minn. refinery processing such oil.

The Company's oil search stretches 1,200 miles from southeastern Saskatchewan to northwest British Columbia. It covers more than 4 million gross acres. The $10 million exploration program in progress this year is the Company's most extensive Canadian undertaking thus far, and typifies the steady growth of Sinclair's crude oil exploration and production.

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worth), at one time the union's symbol of a cleanup, and Paul L. Styles ($2,700 worth), at a time when he was a member of the National Labor Relations Board. Both notified the committee that they had repaid the funds.

III. Editor and Adviser

Just before the final sessions, Merlyn S. Pitzele, Labor Editor of BUSINESS WEEK and former chairman of the New York State Board of Mediation, appeared voluntarily to testify that he had acted as adviser to Beck in 1953, 1954, and 1955. For his services he had been paid $5,000 in each year by Shefferman, for a total of $15,000. Shefferman's books revealed that he in turn had been reimbursed a total of $16,000 by the Teamsters on account of these payments to Pitzele.

Pitzele testified that he undertook to advise Beck because at the time "Dave Beck was tagged as a man who was going to clean up the Teamsters union, and who was going to be one of the forces for good in the American labor movement." Pitzele said that he broke off the arrangement in 1955 when he became convinced that Beck was not taking his advice and did not intend to clean up corruption in the Teamsters.

Pitzele said that neither BUSINESS WEEK nor Gov. Thomas E. Dewey was aware of his arrangement with the Teamsters. In response to questioning by Sen. Irving Ives (R-N. Y.), he said that "it never even occurred to me" to clear with the governor before taking it on. The New York State Board of Mediation consists of seven members, all of whom serve on a part-time basis. It has a civil service staff that handles most mediation matters. Members of the board serve as arbitrators in cases where arbitration is furnished by the state and draw compensation on a per diem basis. Pitzele testified that he did not participate as a member of the board in any matters in which the Teamsters were involved.

Following his testimony, Pitzele resigned from the staff of BUSINESS WEEK and severed all connections with the McGraw-Hill Publishing Co., Inc. The resignation was accepted (see box).

IV. Nine From Flint

The wind-up hearings also brought out evidence involving nine employers from Flint, Mich., who used Shefferman services—with the help of Teamsters officials—to prevent organization by the Teamsters union. They provided extensive illustration of one type of service offered by Shefferman to such concerns as auto dealers, tire retailers, a welding shop, and auto parts makers.

While all nine cases were not exactly similar, the evidence showed that the employers, when threatened by a Teamsters organizing picket line, would hire the services of George Kamenow, in charge of Shefferman's Detroit office. Once Kamenow came on the scene, the Teamsters organizers quietly disappeared.

What the operations had in common was the fee paid to Kamenow. There was a fee of $75 to $100 a month, depending on the size of the client, and an "entertainment account," usually a flat $2,000, which Kamenow would describe as "something for the boys."

From Shefferman record books, the committee totaled Kamenow's entertainment and Christmas gift expenses—allegedly for union officials—from 1953 to 1956. Entertainment came to $20,909, Christmas presents to $33,710.

• **See No Evil**—The nine Flint employers who bought Shefferman services testified before the committee that they didn't know where the entertainment funds were going—although they thought it might be to union officials.

In a typical exchange, with Kent MacGregor, president of the MacGregor Tire Co., committee counsel Robert Kennedy read from the Shefferman figures: $75 a month and "charges for entertainment," including $500 to "take some people on a trip to Washington." MacGregor said he didn't know—or care—who went on the trip, and at that point McClellan broke in:

"I think it's pretty apparent on the face of it—the $500 was to keep the union out of your plant. Do you deny that?"

"I do," replied MacGregor.

Following the employer witnesses to the stand were Kamenow himself and Frank Kierdorf, business agent for a Teamsters local in Flint, who were accused of working together on the deal. Committee member Karl Mundt (R-S. D.) charged the process was a "shakedown," but he could not get the employers to agree.

A STATEMENT

Merlyn S. Pitzele has had a distinguished career in education, labor relations, journalism, and public service. Throughout this career, he has earned a reputation for integrity and honesty.

Now in his testimony before the McClellan committee last Friday, Mr. Pitzele has revealed that he committed a very serious error in judgment a few years ago. He allowed himself to be persuaded to accept a retainer for giving advice to Dave Beck, the leader of the Teamsters union. Mr. Pitzele was wrong to have accepted a fee from the union at a time when he was Labor Editor of BUSINESS WEEK and chairman of the New York State Mediation Board. He made an even more serious error in judgment when he concealed this relationship from his employers. This put him in the position of being exposed to divided loyalties.

Under the circumstances, we have clearly no alternative but to accept his resignation. In doing so, we wish to assert that we do not believe that Mr. Pitzele at any time allowed his reporting of labor news for BUSINESS WEEK to be colored by the fact that he was receiving a retainer from the Teamsters union. We wish also to express the hope that Mr. Pitzele's long and useful career, including the very valuable advice and counsel that he has repeatedly given to some of our leading business organizations and to high government officials, will not be altogether forgotten in the public's consideration of his error.

The Editors

V. What Will Come

The McClellan committee came up with a lot of paydirt in its first management investigations. It developed a picture of anti-union operations among management from big companies such as Sears, Roebuck and Whirlpool Corp. to such Flint outfits as Gordon Baking, Goldman Machinery, Royalite, and the like.

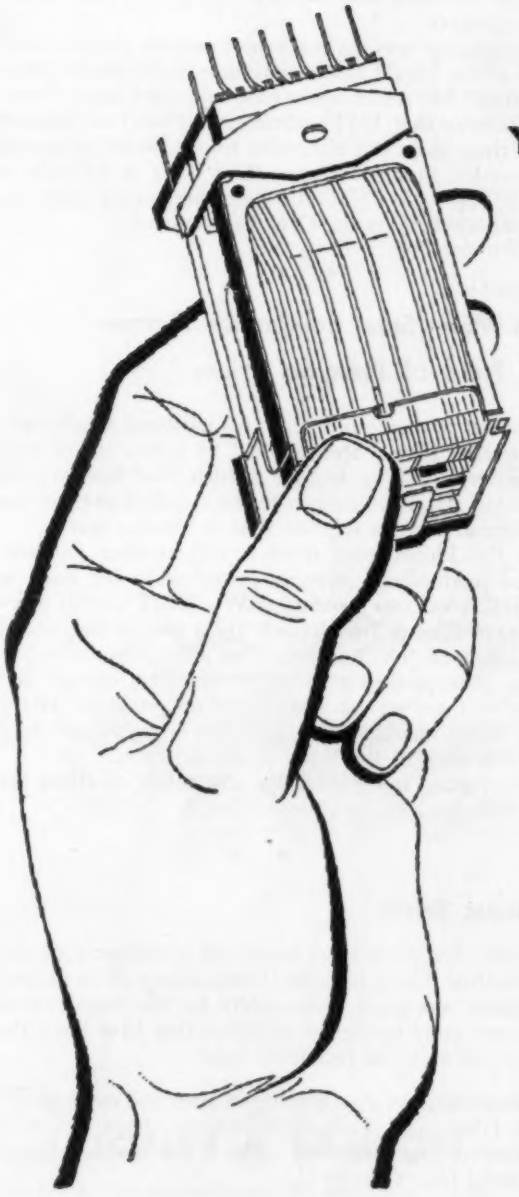
Compared to its impact on unions, the committee's impact on management is going to be relatively minor—and necessarily so. The committee has delved into only an infinitesimally small percentage of the country's businesses; its revelations on the Teamsters go to the heart of the nation's biggest union, a major factor in U. S. labor.

• **Few Fireworks**—The McClellan committee sees its assignment as investigation of labor relations on both sides—not management's other functions. Of necessity, therefore, when it looks into employer activities, it is bound to probe into practices of unions.

Therefore, while management won't escape unscathed before the McClellan committee, the future won't offer much in the way of fireworks to compete with the Shefferman hearings.

However, the committee's next probe again includes management. It will look into the garbage disposal business in and around New York. This new investigation, starting next week, will deal with allegedly collusive deals between employers and union leaders to control the garbage hauling business. In the process, it will bring in some underworld figures.

ANYTHING SPECIAL expected of Bell telephone equipment made by Western Electric?



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In Business

• • •

Senate Antitrust Probers Take Aim At Autos and Assorted Other Trades

The Senate Antitrust & Monopoly subcommittee cast a little light in its plans this week, as it wound up hearings on pricing in the steel industry with testimony from ex-Treasury Secy. George M. Humphrey, now chairman of National Steel Corp. Subcommittee Chmn. Estes Kefauver (D-Tenn.) said that:

• Before Christmas, hearings will be held on pricing by the automobile Big Three, notably the boosts for 1958 models.

• For hearings further in the future, special attention is going to the **tin can, roofing, farm machinery, aluminum, and paper industries.**

Kefauver's group is examining the theory that in big industries prices are "administered" by management, with little or no regard for market forces or competitive conditions. Kefauver himself is convinced this is true of steel.

In the auto hearings, Pres. Walter Reuther of the United Auto Workers will probably be called, along with Big Three management. Attention will be turned to Reuther's proposal—rejected by management—to modify wage demands in the industry cut prices. Kefauver is also interested in the effect of last summer's boost in steel prices on auto pricing.

• • •

Those Chronic Textile Pains: Big Mills Plan Extended Holiday Shutdowns

The chronically depressed textile industry showed signs of sharpening aches at midweek as at least five major producers of cotton print cloth announced further plans to slash production at Southern mills.

All five plan to shut down mills for the four-day Thanksgiving holiday, and for all or part of Christmas week. This means that at least one out of 10 of the 300,000-plus looms that were running last June will be shut down for five full days at a normally full-blast time of year.

Companies affected so far are: **M. Lowenstein & Sons, Burlington's B. I. Cotton Mills division, Abney Mills, Erwin Mills, and Mount Vernon Mills.**

• • •

Auto Industry In Gesture to Prove It Does Too Care About Safety

Smarting under the criticism that it is more concerned with sales than safety, the automobile industry this week trotted out its top officials at a Detroit dinner marking the 20th anniversary of the Automotive Safety Foundation—a group that usually shuns publicity.

The foundation's job is collecting funds from companies in or associated with the auto industry; these funds it distributes to other organizations for safety research.

At the brass-attended dinner this year, the pointing with pride featured the claim by Gen. Leven H. Campbell, Jr., chairman of the foundation, that "since 1937 the accident fatality rate has been reduced from 14.7 deaths per 100-million vehicle miles to six."

• • •

Midwest Project for Natural Gas Periled by Canada's Caution on Resources

The Diefenbaker government's cautious attitude toward Canada's natural resources may cramp Tennessee Gas Transmission Co. plans for the Midwest, which include importing 200-million cu. ft. of Canadian natural gas per day.

Diefenbaker says no new export permits will be issued until after a Royal Commission study of the whole energy situation. But underwriters have told the Federal Power Commission that TGT's whole project can't be financed until there is a clear statement from Canada approving the needed supplies of gas. And TGT is unlikely to get the approval of FTC for the whole project while the uncertainty lasts on the Canadian supplies.

• • •

Two More Steel Companies Narrow The Field of Premium Prices

The list of premium steel prices narrowed significantly last week. **Inland Steel** pruned $5 a ton off its wide flange structurals at Indiana Harbor; the new $105.50 a ton tag gets Inland down to the standard price in the Chicago district for the first time in about a year.

In the Philadelphia district, still another non-integrated producer of premium-priced plate cut back to the $102-a-ton area standard (BW—Oct.12'57,p52) when **Colorado Fuel & Iron** lopped $12 a ton off the rate at its Claymont (Del.) plant. That still leaves two premium plate producers in the Philadelphia district, but it means there are no more premium producers in the wide flange market—although there are different base prices in each of the three producing areas.

Heavy plate and wide flange structurals are about the last steel products in strong demand.

• • •

Business Briefs

Bristol Aeroplane Co.'s long-range prototype Britannia 300 crashed during tests this week, killing all 15 aboard. No cause was given immediately for the crash, which adds one more to the list of delays that have beset the British entry in the turboprop field.

Three dissident directors, up in arms last week against Penn-Texas chief Leopold Silberstein (page 52), have apparently been mollified. The latest move increases the board from eight to 11.

How to Beat a "Sure Thing"

If Obsolescence gets out in front, it's all over.

The only way this "sure thing" can be beaten is to block it at the very start.

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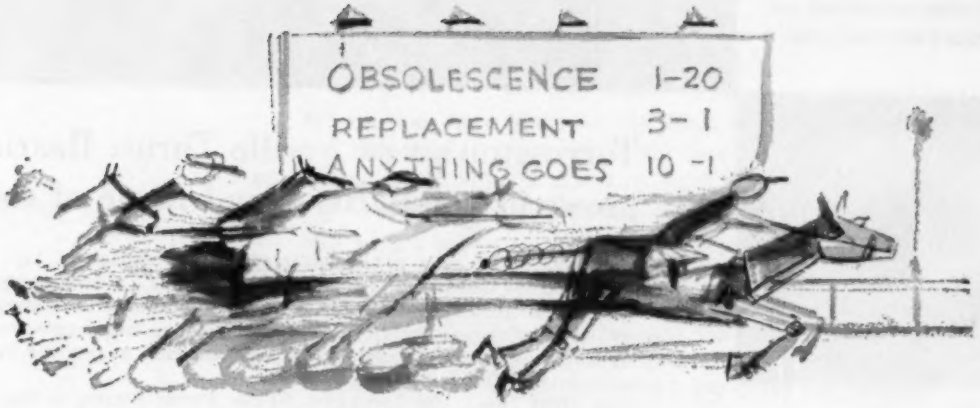

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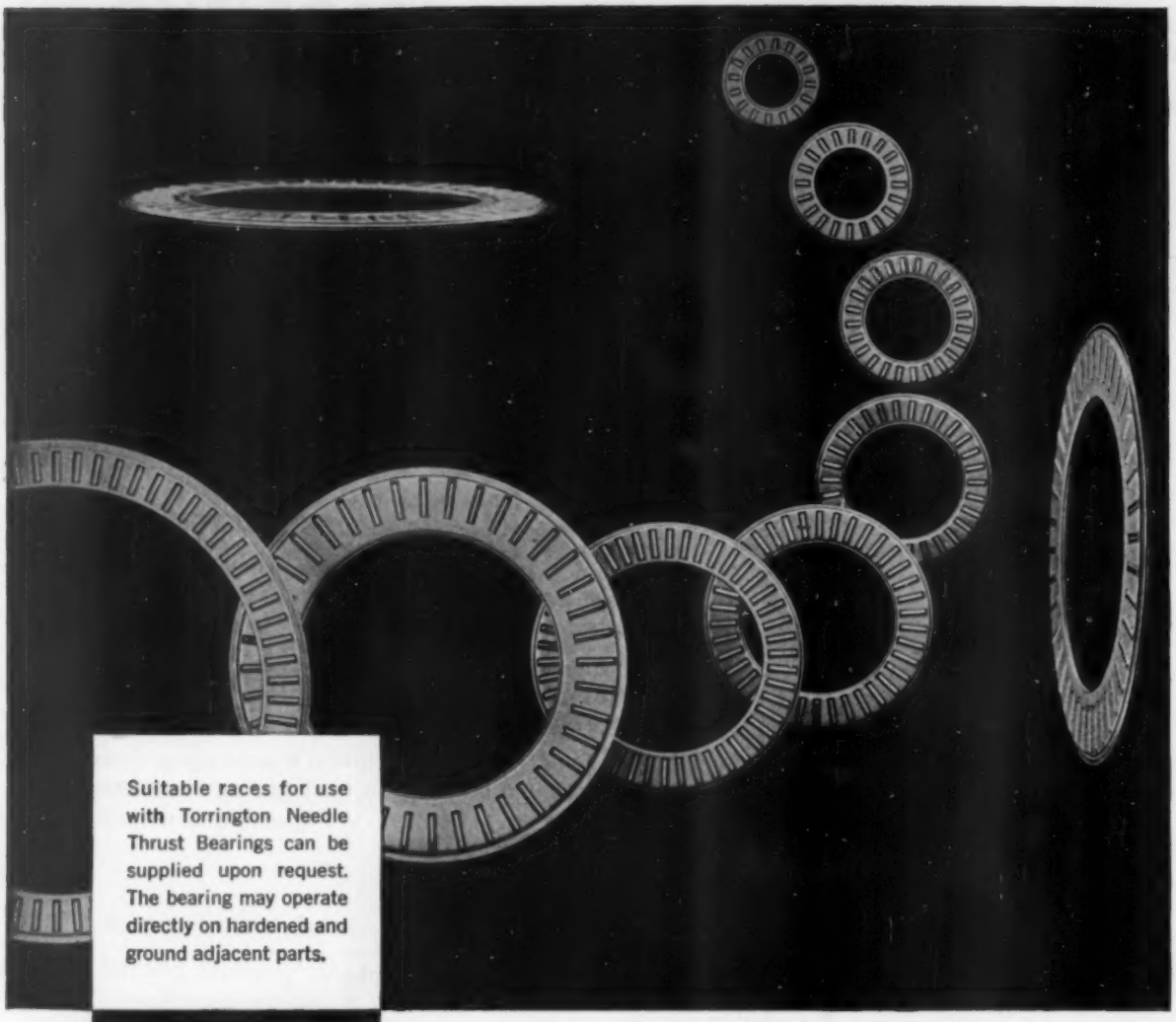

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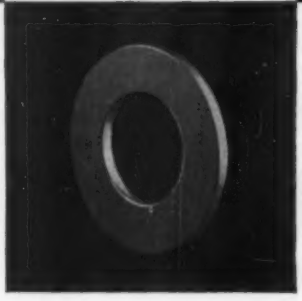

Torrington's new Needle Thrust Bearing grows in popularity...and range of sizes

Designers have been quick to take advantage of the compactness, high thrust capacity and low unit cost of Torrington's new Needle Thrust Bearing.

To meet the growing demand for this bearing in automatic transmissions, governors, steering gears, bevel gears, hydraulic pumps, torque converters and many other applications, tooling has been completed to produce bearings ranging from .500" ID to 3.000" ID.

Only .0781" thick, the Torrington Needle Thrust Bearing is thin as an ordinary thrust washer, yet brings all the advantages of anti-friction operation to applications where space is limited. Mating steel retainer halves are joined securely to form a self-contained unit that is easy to handle and install.

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WASHINGTON
BUREAU
NOV. 9, 1957

The East-West arms race will get closer and closer.

Right now, the West would have an advantage in a showdown. U. S. bases ring Russia. And from these bases a telling retaliation could be delivered in event of any overt act by the Soviet.

But the advantage is shifting toward the East. That's the military significance of Russia's scientific disclosures of recent weeks—unveiling of an intercontinential ballistic missile and Sputniks one and two.

Washington and its allies are concerned. There's no disguising that. Since the first Sputnik, Pres. Eisenhower has spent more time with scientific experts than in all the past year. He has also given much more than the usual time to personal contacts with our allies—British Prime Minister Macmillan, for example—and to domestic political advisers, including leaders of his party in Congress and New York's ex-Gov. Dewey. And he stepped up the schedule of his "reassurance" talks to the nation to make the first one this week, instead of next week. While acknowledging Russia's advances, Eisenhower as well emphasized the U. S. is still militarily strong.

What's the time element—the period in which the military advantage may pass from the West to the East? No one seems sure at this stage. But speculation by some competent authorities takes this line:

The West will be on top for another year, or thereabouts. What this means is that the U. S. will have the power of massive retaliation that is supposed to discourage Russia from setting off World War III.

The supposed advantage is attributed to old-style weapons. That means long-range bombers that could put A-bombs and H-bombs over Russia's chief cities. They would operate from the U. S. and bases abroad.

After a year, then what? As the speculation goes, Russia will be able to bring U. S. foreign bases under fire from so-called intermediate range missiles and the U. S. under fire from the ICBM. So far as is known today, there is no effective defense against either weapon.

The West's power to retaliate will be weaker. We have an experimental intermediate-range missile—1,500 miles—that can be fired from bases abroad and can reach major Russian centers. But planes that must deliver bombs over the target area may well be ineffective within a year. Russia, with her progress in the rocket and missile field, may be able to intercept any such attack and protect her cities and industry.

That's where the danger will come. If Russia can blunt an attack from long-range bombers, while able to pound the U.S. with long-range missiles armed with A-bombs and H-bombs, the advantage will swing to the East in the cold war.

It's a shocking thought. But men in a position to know the progress being made in the weapons field here at home and able to appraise the possibilities of Russia's advances fear that within another year the U. S may be the second military power. They don't predict that this will occur. They merely talk about the danger and hope for a scientific breakthrough that can assure the West a continued lead in the arms race or at least achieve a stalemate that would discourage any Red aggression.

WASHINGTON BUREAU
NOV. 9, 1957

Russia will make political hay in the year ahead. By unveiling what many nations would treat as top military secrets, she is putting pressure on neutrals the world round. And she is also worrying U. S. allies.

The Red aim is to split the West, just as this has been the aim in the past. The difference now is that Russia has more tangible evidence to back up her threat that it would be unprofitable for Western Europe and the Middle East to get involved in Russian-U. S. difficulties.

The U. S. will push its scientific effort harder. For the short pull, this doesn't mean any ballooning of defense expenditures. But it does mean that the budget downhold won't extend to the missile and rocket field. Then, too, there will be a real effort to get help from the allies.

—•—

You can count on a bitter session of Congress. It would take a war to dissuade the Democrats from going after Eisenhower and his team.

Note the defense investigation, starting this fall. Senate Majority Leader Johnson, Texas, isn't satisfied with U. S. progress. The Pentagon spent most of a day telling him and other Senate leaders where the U. S. stands. If the idea was to get Johnson to hold off his dogs, it didn't work.

Eisenhower economic policy will be under fire. The investigation of tight credit and the motives behind it will be resumed.

Keep an eye on Wilbur Mills. He's the Arkansas Democrat who holds a ranking position on the tax-writing House Ways & Means Committee and also is a leader on the House-Senate Economic Committee. Mills next week will open a fresh look-see on federal aid—in all fields.

—•—

Tuesday's voting depressed the GOP. In the major races, the party didn't lose anything it had expected to win. The results were anticipated.

The telling factor is the margins. Just about everywhere the Democrats got a majority beyond what the GOP conceded, beyond what Democrats claimed. To the politicians, this has real importance. They are inclined to read these results as an indication of future trends.

Take New Jersey. Democratic Gov. Meyner was supposed to win a second term. No one gave Republican Forbes much chance. But Meyner's margin was much greater than expected. It was bigger than in 1953 and indicated he got a large Negro vote, which the GOP had hoped to split with its civil rights legislation and Little Rock.

In Virginia, it's no news when a Democrat wins the governorship. But Democrat Almond extended the recent majorities that his party has received. He advocated "massive resistance" to school integration. The old lift the Virginia GOP got from Eisenhower did not appear.

In New York City, Mayor Wagner, the Democrat, won, as expected. But his margin set a record, nearly 1-million votes. And in Queens, the Democrat beat the GOP incumbent for borough president.

The GOP sees it as a bad sign for 1958, when House and Senate control again will be at stake. Some Republican partisans go even further. They fear the Democrats can use Gov. Meyner or some other candidate to beat Nixon for the White House in 1960, if the South can be held within the party.

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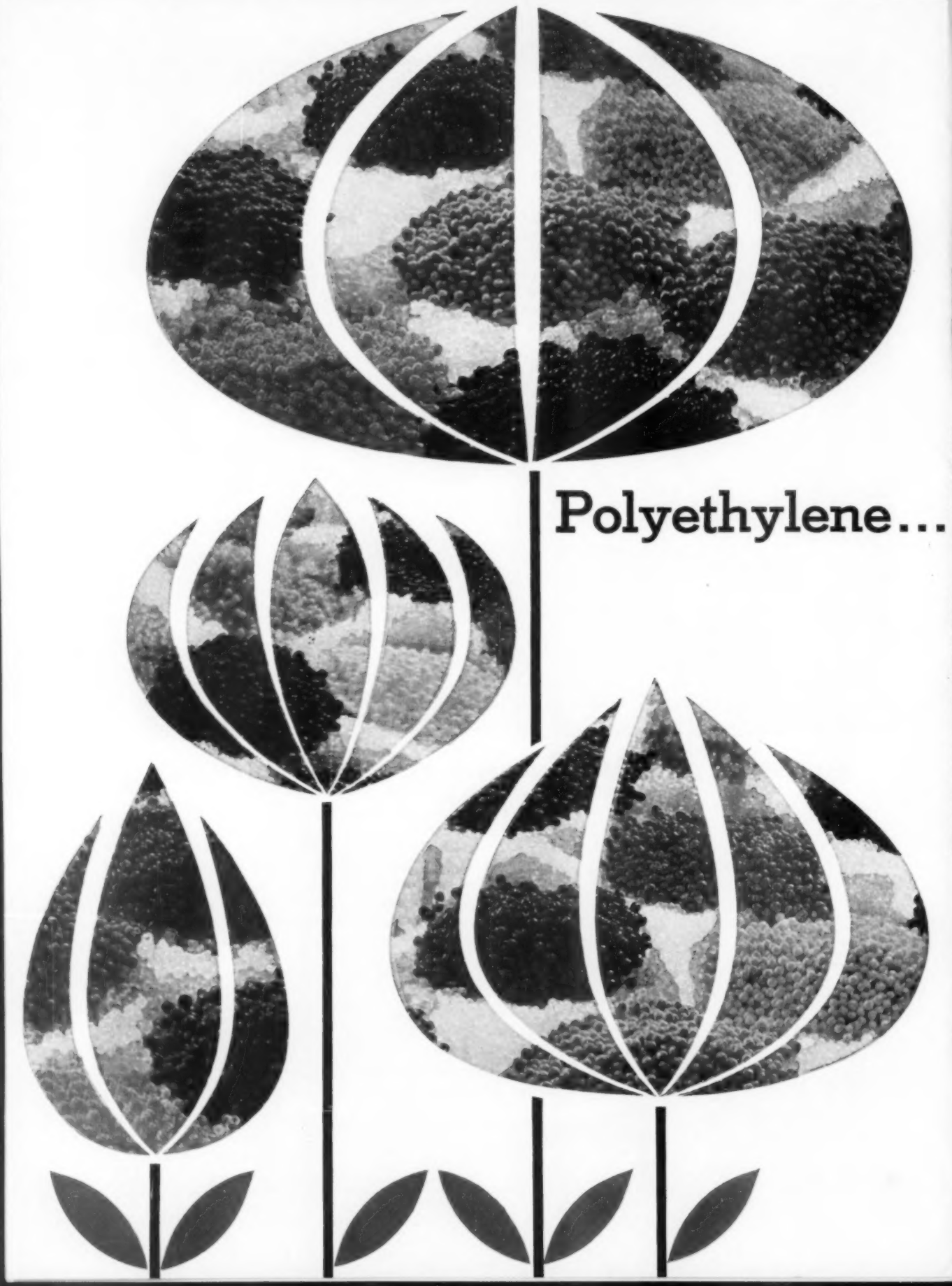
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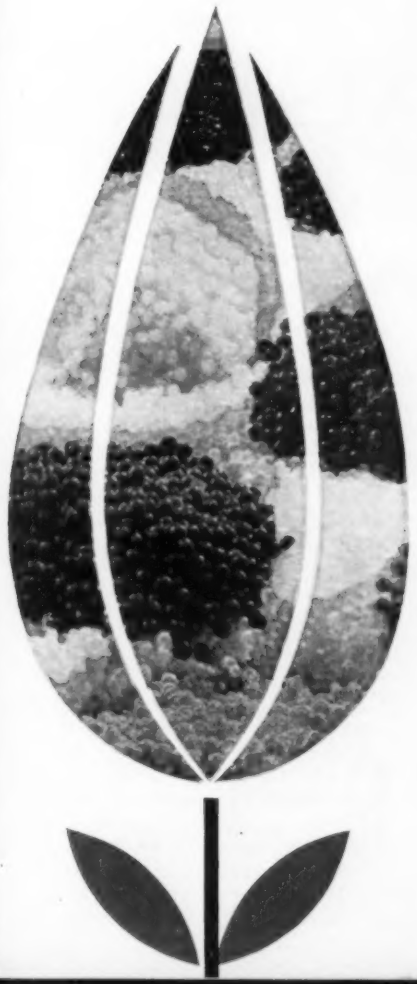

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MANAGEMENT

Leader in the Move to Missiles

The Martin Co., frankly insistent on sticking to defense business, has successfully switched from aircraft to missiles.

Ever since Sputnik—and, for that matter Russia's announcement of its effective intercontinental ballistic missile—the Martin Co. of Baltimore has been in the middle of the uproar over what happened to America's long-range missile program. The reason: Martin is prime contractor for both Project Vanguard, the U.S. satellite, and for Titan, one of two ICBMs currently under development in this country.

Martin is only one of nine or ten "aircraft" companies deeply involved in missile work, one of some three dozen companies of all types considered as "major contractors" in some phase of the country's over-all missile program. But, perhaps more than any other company, Martin has successfully made the transition from a solely "aircraft" company to a primarily "missile company." Today, some 60% of current volume (over $400-million this year) and of backlog (over $800-million) lies in the new field, compared with about 15% three years ago, and a negligible proportion six years ago.

• **Two Specialites**—Some of the change was planned; perhaps more was an accidental result of its own corporate problems. Today the company has two specialties:

• Developing and building complex missiles and manned military aircraft.

• Dealing with the only customer for them, the U.S. government.

Martin is one of the rare major companies that is still 100% in government business (it may be the only one)—and it's determined to stay that way. That is true although the company head, George Maverick Bunker, had a background of purely civilian business until he came to Martin five years ago.

• **Started in 1909**—The Martin Co. (the name was changed from the Glenn L. Martin Co. early this year) has been in existence since 1909. Like others in the industry, it boomed on World War II mass production—and with the rest ran into trouble in postwar years. Military production dropped to nothing. Debts skyrocketed. It took two changes of management—in 1949 and 1952—to move the company safely back from the brink of bankruptcy.

Out of that experience came the guiding philosophies of Martin today:

MARTIN'S TOP MAN, Pres. George M. Bunker (right), huddles with George Trimble, vice-president for engineering, and William B. Bergen, the executive vice-president.

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CIVILIAN background notwithstanding, Pres. Bunker has stressed defense work.

to work always at the very frontiers of advanced techniques, and to stay away from commercial business.

At the end of World War II, Martin resolved to make a solid bid for commercial business. It bought a helicopter company and a plastics company. It started producing a commercial transport, the 40-passenger, two-engined 2-0-2, followed it later by the improved 4-0-4. But with airlines freezing or canceling orders, the commercial business ran up bad losses. Martin kept going with some developmental contracts, subcontracting, and conversion of military planes to commercial use. Mass production again during the Korean War really put it back into business, helped wipe off the accumulated debts.

I. The Shift to Missiles

In the meantime, Martin went into missiles.

At war's end, the services had been shocked enough by the success of German weapons to start serious development work—though the money and effort involved were pretty much a dribble. In 1946 Martin drew plans for what were to become the Viking rocket—planned as an upper air research vehicle—and the Matador, a surface-to-surface winged missile.

With its plane business fading, the Baltimore company put some extra attention on the missiles. Martin men such as William B. Bergen, now executive vice-president and at that time the 30-year-old chief test flight engineer and head of the new missile section, and George Trimble, now 41 and vice-president in charge of engineering and advanced research, figured a new approach was needed.

• **Martin's Tack**—The tendency for plane makers moving into missile work was to regard the missile primarily as an airframe that happened to need nonhuman guidance. Martin switched emphasis—that a missile is essentially a guidance system surrounded by an airframe. To make sure the new engineering approach held up, missile work was entirely separated from aircraft operations from the beginning.

Missiles also dragged Martin into electronics for the first time. In the late 1940s, major electronics companies were more interested in exploiting a hungry consumer market than in developing the complex guidance systems required; so Martin was forced to develop its own. Currently its Missile Master system is also used for the various Nikes, the new Hawk, and SAGE, the long-range radar detection system—none of which Martin makes.

Actually, it took three years before the first Viking was fired—to a 50-mile height. It took seven years before the first Matador was successful. The current improved version—first tested only a year ago—has a 650-mile range at transonic speeds. It can either deliver a thermo-nuclear warhead or do such tricks as reconnoitering enemy lines and returning with photographs.

Now Martin is in the missile business for keeps—although its more advanced jobs are still not proved. Vanguard gets its first real test in December, the Titan not till next summer.

II. In Defense to Stay

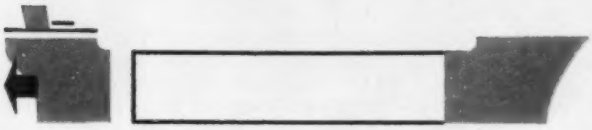
Martin plans to stay wholly in the defense business anyway. Bunker had been president of Trailmobile, maker of truck trailers; manufacturing vice-president for the Kroger Co. grocery chain; and a management consultant. Today he is also the largest single stockholder in Martin. He concedes he's gambling on a long period of cold war tensions and a concomitant weapons race.

If "peace" should come along, and cut defense business, he says: "We'd liquidate what we have left and go out of business. That would be better than trying to make wheelbarrows."

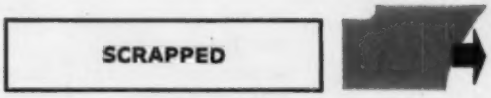
The divergences between military work and commercial work, Bunker believes, are too great to reconcile. About commercial aircraft, he's brutally realistic—for one thing, though Martin has made good commercial planes, it's been burned on them financially.

"Look carefully at what the commercial market really is," he suggests. "Either Boeing or Douglas alone could probably supply the entire industry's commercial needs—and there're a lot

Jumboizing completed, S.S. Gulfbeaver carries crude oil from ports on the Gulf of Mexico to Gulf Oil refineries on the East Coast.

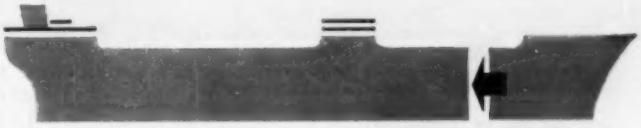


1 Stern of tanker *Gulfmeadows* containing propelling machinery is cut away from old midbody in drydock.



2 The old midbody of the tanker containing corroded cargo-oil tanks is cut away from bow and scrapped.

3 New, larger midbody—to which the original deckhouse has been added—is floated into position for joining to stern.



4 With original bow welded to new midbody, the jumboizing is completed. Rejuvenated tanker is renamed *Gulfbeaver*.

"Jumboized" tanker carries more oil, gains new lease on life

Unlike the famous one-horse shay, a tanker ages unevenly in its various parts. The bow, containing fresh-water tanks and other units, and the propelling machinery in the stern may still be in good condition for many a long ocean voyage at a time when the huge cargo tanks composing the long midbody are ravaged by corrosion.

To renovate and at the same time enlarge the capacity of a group of its T-2 tankers, Gulf Oil Corporation is jumboizing them—replacing the corroded midbody while retaining the still-serviceable bow and stern.

First of this group of tankers, and the first ever to be jumboized, was *S.S. Gulfmeadows*. The Baltimore Yard of Bethlehem Steel handled the job. First, Bethlehem crews transferred the tanker's deckhouse to the new midbody, built in advance at the Bethlehem Sparrows Point Shipyard across Baltimore Harbor. Then they cut away and scrapped the old midbody. The new, larger midbody, 354 feet long, was welded first to the original stern and then to the bow.

Renamed the *Gulfbeaver*, the rejuvenated vessel has a life-expectancy of from 12 to 15 years, carries up to 7 million gallons—1,260,000 gallons more than the original tanker. And the cost was far less than that of building a new ship of equivalent speed and capacity. Bethlehem's Shipbuilding Division had the *Gulfbeaver* ready to go to sea in only 36 days, about half the time anticipated.

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BETHLEHEM STEEL

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• **Diversity**—Besides, say Martin people, they're pretty well diversified now. Once largely identified with the Navy, they've gotten away from the one-service tradition, now are tied to all three:

• Martin's missiles go to the Navy (Bullpup, Project Vanguard, Viking rockets), to the Army (La Crosse, for combat artillery support), and to the Air Force (Matador and Titan).

• It makes the electronic Missile Master, a ground guidance system for several missiles, for the Army.

• It's still in manned aircraft, with the Martin, a twin-engine patrol boat and sub hunter, and the development of the SeaMaster, a big, fast, waterbased jet bomber, both for the Navy.

• It's building power reactors, both portable and fixed installation, on its own, betting on future needs.

• It's also tied up in at least half a dozen other projects, split among the services and still on the secret list.

• **Fewer Thorns**—The insistence on staying out of civilian business is not because defense business is that easy—although Bunker concedes that, in some ways, it is less complicated. As a man who has seen the other side extensively, he notes there's no problem of dealers, distribution and warehousing, changed styling for "planned obsolescence"—or even the ability of the consumer to pay.

That's not a case, Bunker insists quickly, of ignoring the taxpayer. "But advance design, rigid quality, are more important than basic cost. They have to be. How do you put a market price on the value of results of advanced military hardware? Regardless of the political mood of the moment, it's actually the enemy who's calling the shots."

The concentration on narrower selling factors does free a defense company, he adds, to spend more time and energy on creating a product, to guess at requirements five to ten years ahead, and develop the necessary technical and other capacities.

If you guess wrong? Unlike the situation in a commercial company, the wrong guess does not necessarily cost too much immediate cash. Cost-plus contracts—even production contracts when they're canceled in midstream—are paid as far as they go. Heavy inventory losses aren't a problem. The danger and waste come in having nothing else to which scientific and technical manpower can turn when a long-time project fizzles. That's happened to Martin in the past, and it doesn't want it to happen again.

III. Drawbacks in Defense

But defense business is a long way from gravy. Martin was one of the first to get hit by the current wave of cutbacks. It had spent two years of hard work on preliminary development of a new tactical bomber. Last year it won the award competition, and 400 engineers were working on the preliminary setup when the ax fell on the whole project last Christmas. As for the SeaMaster, so far it has built two, both of which failed in flight. Its third won't test fly till next year. The original contract, for 30 prototypes, was cut to 24 this year.

Profits are low. For the first nine months of this year, Martin's sales came to $308-million, up from $228-million for the same period last year. But profits dipped, from $7.3-million to $6.5-million—about a 2% return. Martin has some 85% of its total current business in cost-plus-fixed-fee development contracts—and the rate of return is almost always lower on CPFF than on a fixed price for production items, Bunker says. Of the approximately 14 major projects Martin is now working on, three at most, including the Matador, are on a production basis. Delivered amounts of military equipment are classified—Martin can only say it has delivered "over 1,000" Matadors, at a cost of "under $60,000" each.

• **Many Bosses**—Working with only one "customer"—the Defense Dept.—should have advantages. That one customer, however, is fragmented not only into the several services, but also into the many branches of the same service. "It's easy enough," says Bunker, "to say 'the Air Force wants such and such.' But who in the Air Force? The Secretary? The Office of Air Research, SAC, Wright Field? Before you've sold a project, you've got to sell it to a dozen branches of the one service—and they don't all want the same thing."

Rarely does the contractor propose its own development to the Defense Dept. The services set up performance specifications for an item, based on the latest military requirements, and the companies compete with their own designs to meet those specifications.

"Maybe only two or three design competitions are awarded every year," Bunker notes, "and every company in the business is after them. The odds are against anyone getting very many."

• **Vision of Riches**—From the corporate standpoint, the stakes are high. If you get an award, if the item works, if it doesn't get canceled out (as did Martin's tactical bomber award), and if it

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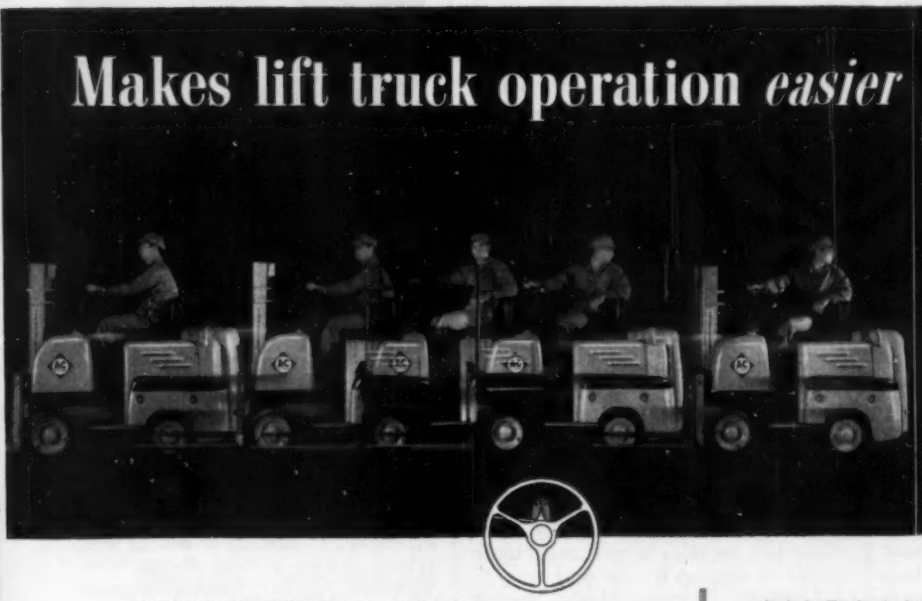

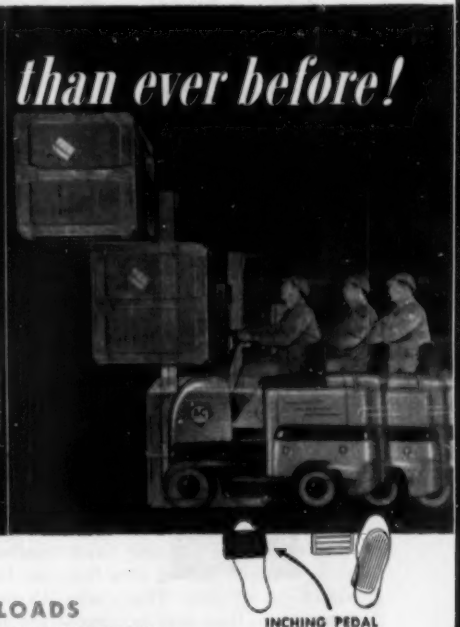

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isn't obsoleted by change in military strategy—then the final fixed-price production contracts can mean possible totals in the hundreds of millions, and turn a nice profit for the company.

The competition is more than corporate, Bergen adds. "The real race is technical. Sputnik proves that. You're working against a guy who's out to kill us—which makes it an entirely different kind of competition from, say, either autos or cigarettes. You've got to do something really better. Advertising won't buy you a thing."

• **How to Plan**—How do you plan ahead under such conditions? Martin theoretically works under formal five-year plans, but one official confesses: "They're not worth the paper they're written on for more than two years—and even then only for directions rather than firm plans. Cash forecasts can be fairly sound for three to six months, and even at that upper limit they're getting wobbly. Financing is always a headache—you keep from borrowing too heavily only by turning your money around as fast as possible."

It gets more complicated at times like these, when between reduced progress payments and a stretchout in payment for actual delivered goods, the company is facing the need to find additional funds to carry production. There's no concern over being paid, even with delay—but the extra interest could make a dent in earnings for the next year.

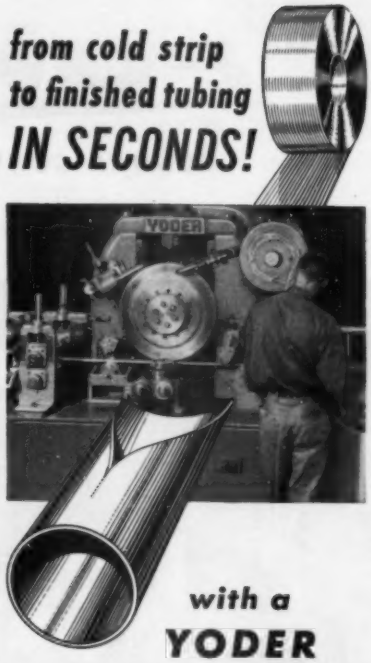
• **Cutbacks Foreseen**—Martin doesn't consider cutbacks a major hazard of the game. "Cutbacks never come out of a clear sky," says Bergen. "Unless you're blind, you usually know when a shift is coming. When the telegram comes, it's an anti-climax." Major contractors work so closely with the services, on an hour-by-hour basis on several levels ("It's almost like a marriage—only even harder to separate") that the companies usually have a clear idea of what's happening.

That's one reason Martin isn't particularly worried about having its Sea-Master program canceled—in spite of the fact that it's had bad luck so far.

Actually, Martin men are generally convinced that the days of the manned aircraft are numbered—except for seaplanes. They echo the Navy line that water-based bombers, fast, long-ranging, needing no fixed base that can be destroyed, make a highly effective retaliatory weapon. "It's going to be quite a while," one official notes, "before the Navy abandons that mission."

Political factors do come into the picture—especially now that Russia is obviously ahead of the U.S. Some fingers have been pointed at Martin as the company working most closely parallel to the Russian achievements. Martin people dryly note that the contractor's job is delivering the hardware

from cold strip to finished tubing IN SECONDS!



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The Yoder Type-M Mill shown above is operated by one man and a helper. Coiled strip on this mill is continuously cold-roll formed, welded and cut to required lengths in a matter of seconds . . . at speeds up to 340 f.p.m. The quality of the resulting tube is *constantly* better than the requirements of commercial standards. This is one of many reasons why manufacturers and users of tubing the world over are using more Yoder mills than all other makes combined.

If your business requires pipe and tubing, ferrous or non-ferrous, in sizes from ¼-inch up to 26-inch diameter, Yoder can supply the engineering service and machines to produce it faster and better for less! For complete details, write for the Yoder Tube Mill Manual. It's yours for the asking.

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To realize its growth potential, a well established western manufacturing company needed a substantial loan, yet based on its book value it could not show sufficient assets as collateral. The lending agency requested that Marshall and Stevens, Valuation Engineers, make an appraisal of tangible assets. The results of Marshall and Stevens' appraisal provided evidence that the property and equipment were worth double the book value. Thereupon the loan was made and the company forged ahead!*

APPRAISAL COMPLIES

This story points two morals. First, that a qualified appraisal provides a yardstick for scientific business progress. Second, the fortunate selection of Marshall and Stevens resulted in an appraisal prepared for the purpose of complying with the needs of the lending agency as well as the owner of that property.

APPRAISALS FOR SPECIFIC PURPOSES

The foregoing is but one of the many applications in which appraisals prove of immense value. Costly time in business negotiations and in tax matters, too, can be eased by anticipating the need for and ordering a qualified appraisal before the need arises.

Marshall and Stevens experienced appraisers are qualified to analyze your particular valuation problems, and prepare appraisals for the following purposes: income tax, inheritance tax, gift tax, fair market value, mergers, refinancing, insurance, proof of loss, purchase price, catastrophe damage value, accounting and tax assessment.

The informative booklet "What Every Property Owner Should Know About Appraisals" is yours for the asking. Write Marshall and Stevens, 420 Lexington Ave., Dept. 114, New York 17, New York.

An international appraisal company, Marshall and Stevens offers local personalized service. Offices in Chicago, Cincinnati, Dallas, Denver, Detroit, Honolulu, T.H., Houston, Los Angeles, Minneapolis, New York, Philadelphia, Phoenix, Richmond, St. Louis, San Francisco, Vancouver, B.C.
*Actual case history on file.

contracted for—but not determining either the political or strategic purposes for which the hardware may be ordered. On their own satellite project, they flatly insist: "We're exactly on schedule —and under orders not to advance it."

• **Glow of Data**—Somewhat surprisingly, from a management standpoint, secrecy is not a real problem—although the atmosphere around the company plants is one of intense security. Interservice rivalries may dictate original decisions on weapons programs, Martin people say, but they do not throttle information on programs in progress.

"In the missile field particularly," Trimble notes, "there's a fast and accurate flow of information between the services and the major contractors on all new developments in the field."

As one of the early settlers in the missile field, Martin is not inclined to minimize the difficulties of moving in. Company people suggest a "crash" program for automatic expansion of missile development might not be easy. "Aside from the lack of the right skilled manpower, too much of the knowledge is not transferable. We're still in the guesswork area on missiles—we've been making planes for 50 years, and we're still in the guesswork stage on planes. We've got missiles that work —and we don't know why they work. Companies jumping in now are going to find it takes time—lots of time—to learn what it's all about."

• **Too Little Research**—The trouble, they say, is lack of basic research in this country. "All our basic ideas came from somewhere else—and we've run out of new theories from others to exploit."

Martin feels so strongly about the need for more basic research that about two years ago it set up, as a separate company, the Research Institute for Advanced Study, to prove that there could be "profit" in basic research.

RIAS is theoretically a "profit-making" institution. Martin hoped that enough other companies would help it cover the running expenses of the outfit, at least until it made important discoveries that could be exploited in marketable products. The 46 men there —26 of them "scientists"—are working on solid state physics, pure mathematics, field theories, photosynthesis, and atomic structures of metals, among other things. But RIAS consistently refuses to take on any applied projects.

The research company has gotten small grants from the National Institutes of Health and the National Science Foundation. But it has been unable to find a single "customer" among the rest of U.S. industry for its "someday" wares. So far, Martin has been pouring about $500,000 a year (non-tax deductible) into RIAS. "Maybe 20 years from now," Trimble adds, "something may come of it." END

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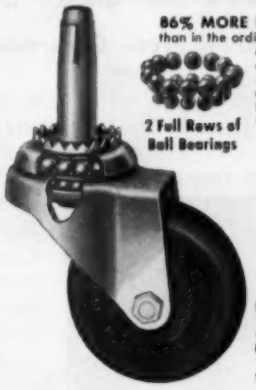
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In Management

• • •

Bethlehem's "Mr. Steel," Eugene Grace, Steps Down From Chairmanship at 81

Last week, after 58 years with the company, 81-year-old Eugene G. Grace (top picture) retired as chairman and chief executive officer of Bethlehem Steel Corp., the second largest steel company in the world. The company abolished the office of chairman, made Grace "honorary chairman," and will keep him as a director. Arthur B. Homer (lower picture), Bethlehem's president for the past 12 years, will take the reins as chief executive officer as well.

Grace, a crisp, vocal man long identified in the public mind as "Mr. Steel" and a spokesman for the industry, took over the presidency of Bethlehem in 1916 at the age of 39. He moved up to the chairmanship but remained as chief executive officer in 1945. During his tenure, he has seen company capacity climb from 950,000 net tons annually to the present potential output of 20.5-million tons.

Homer, 61, became president in 1945. He is an engineer-administrator who first made his mark in Bethlehem's Diesel Engine Div. He designed one of the company's first gas turbine engines and ran its giant shipbuilding facilities during World War II.

• • •

Silberstein Foes Vow to Oust Him From Presidency of Penn-Texas

The dissident minority of directors who want to remove Leopold Silberstein as president and chairman of Penn-Texas Corp. has been concocting new harassments for their foe.

Last week they called a special directors' meeting to oust Silberstein. But only three of the eight company directors showed up, and it takes five to make a quorum. However, the rebels have publicly vowed to march into the board room every Monday in the hope that enough directors will eventually join them to carry the day.

Perhaps more important, they have filed the Form 14-B statements with the Securities & Exchange Commission necessary to wage a proxy contest at the company's annual meeting next May. The company's poor earnings figures will rally new dissidents to their cause, say the rebels.

Ever since the diversified company tied up big chunks of cash in an unsuccessful effort to take over Fairbanks, Morse & Co., it has been short of dollars.

What's more, its third-quarter operating earnings were down to $15,000. The company reported another $227,000 in nonrecurring profits, but even this brought earnings up to only 1¢ per share.

• • •

Three Company Presidents Resign In Rivalry Between Generations

A new president has taken the helm at **Joy Mfg. Co.**, the profitable Pittsburgh producer of coal mining machinery. Last week, W. L. Wearly, Joy's 42-year-old executive vice-president, took over the top job from 46-year-old John Lawrence, who resigned. He is going to Dresser Industries, Inc. as a vice-president.

One reason, according to Pittsburgh observers, is that Lawrence found it difficult to get along with strong-minded L. F. Rains, head of Joy's executive committee.

In any event, this makes the third clash in recent weeks between youngish company presidents and older board officers.

At **Avco Mfg. Corp.**, Chmn. Victor Emanuel recently announced that 43-year-old Raymond Rich, who came to Avco from Philco Corp., had resigned as president. In his place, Kendrick Wilson, Jr., 44, will try his hand at running the giant concern.

At **Pabst Brewing Co.**, Chmn. Harriss Perlstein assumed the dual job of chairman and president when Marshall S. Lachner resigned from the latter job. Lachner, formerly a vice-president at Colgate-Palmolive Co., is 43.

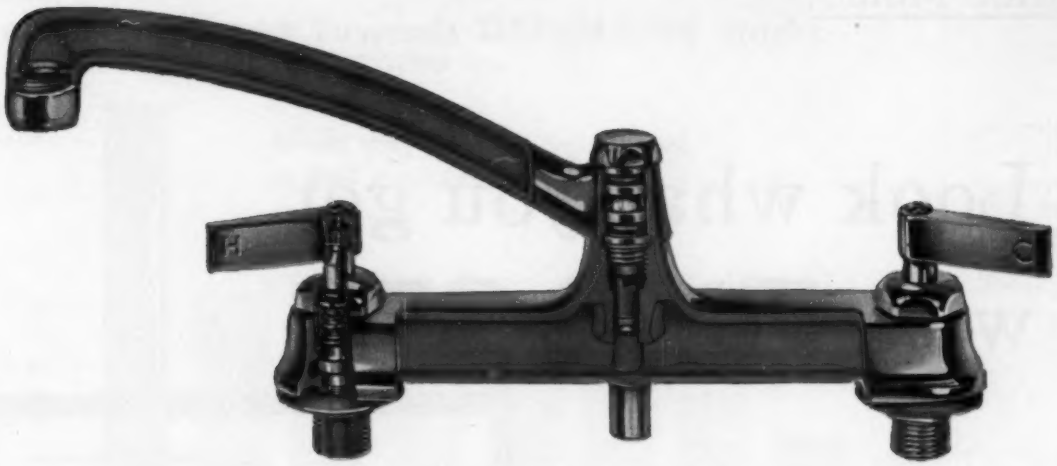
• • •

Scientific-Minded Companies Wring The Ultimate Use From Computers

Depending on whether or not they are of a scientific bent, companies tend to organize and use their medium size computer installations differently, and the scientifically oriented companies tend to use their equipment both more intensely and more broadly. At least that's one possible indication derived from a survey of 81 company installations published by the magazine Computers & Automation.

Most companies use computers almost exclusively for payroll, billing, and accounting in that priority but aircraft companies, for instance, use them for general engineering, missile design, and general mathematics in that order.

The computers handle payrolls, too, but this comes at the bottom of the list in total machine time. Scientifically inclined companies use 13 people on the average to staff an installation and keep it under loose decentralized control. Most others use a highly centralized computer organization staffed with six people.



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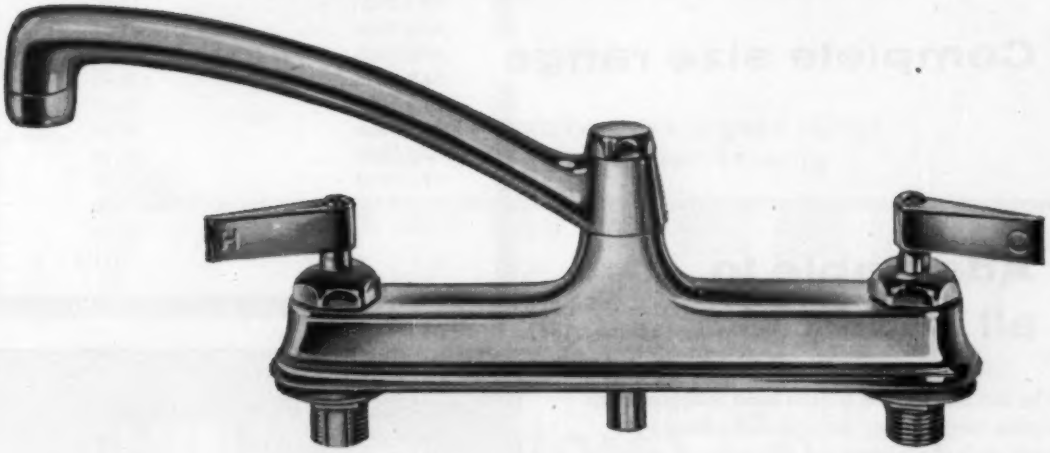

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NAS 2807	7/16-20
NAS 2808	½-20
NAS 2809	9/16-18
NAS 2810	⅝-18
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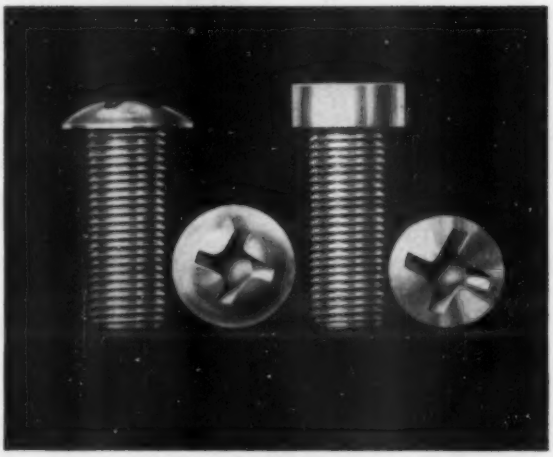
	⅞-14
	1-12

2. Adaptable to all heads (with weight savings, too)



The flat fillister and button head configurations shown here are two examples of additional head styles available in a full range of sizes. The small heads also offer important weight savings . . . for example, the ¼-28 flat fillister head with a head height of .150 and a .375 diameter will accept the TORQ-SET design and deliver driving torques far in excess of requirements.

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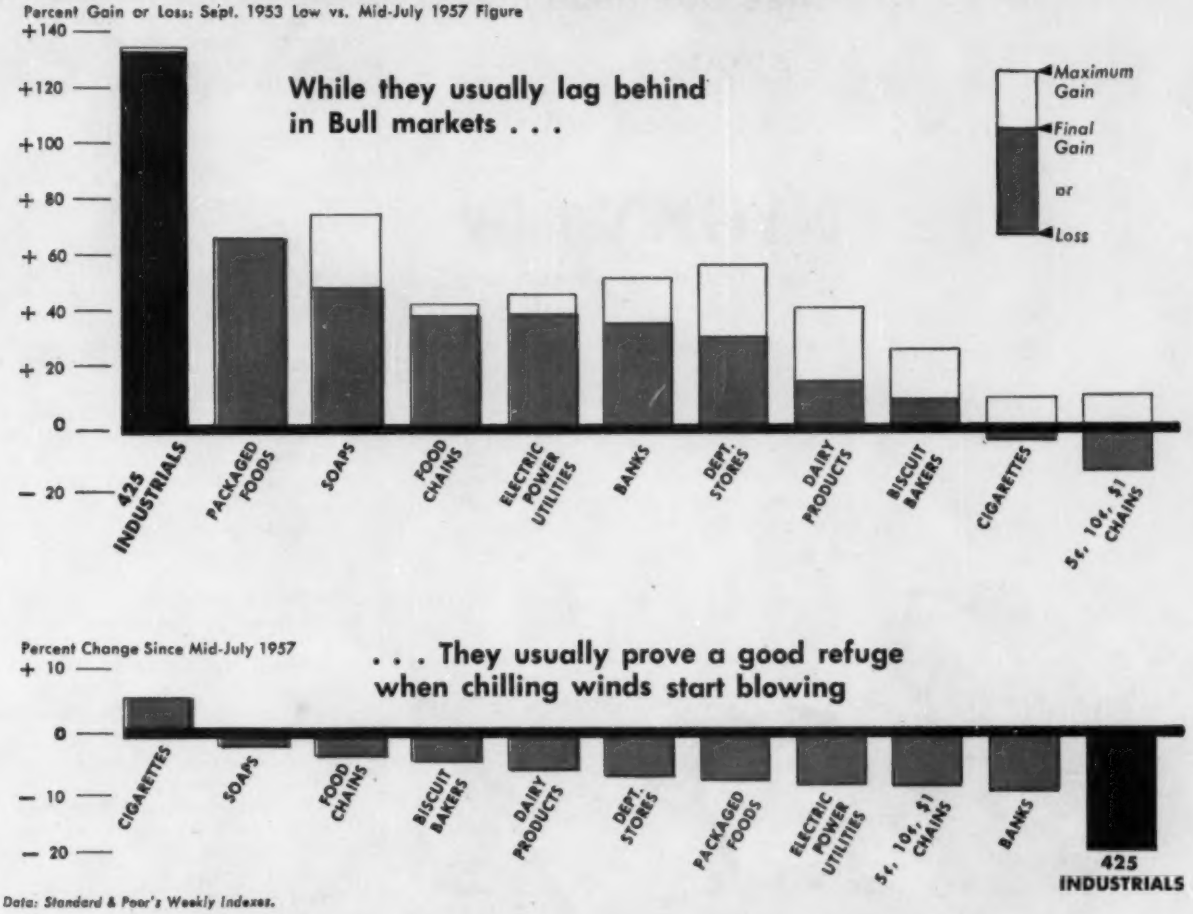
Behind the Trend Towards **DEFENSIVE** Stocks



Data: Standard & Poor's Weekly Indexes.

A Call to the Storm Cellars

Death of the long bull market leaves the spoonfed postwar investors jittery. Streeters are urging the uncertain to shift to such defensive shares as electric utilities, whose strength in bad times atones for laggard boom performance.

The past few months have brought a shattering experience for most of the fledgling investors who have made their debuts in the stock market since the war. For the first time in their careers as "money managers" they have had to face two almost forgotten fundamentals of the market:

• The moving finger that writes the market price charts moves down as well as up.

• The market's ability to move in either direction is just as pronounced now, in the fancy "new-pattern, modern market," as it ever was, despite the boasting that things have changed.

The postwar investors are gulping on this bitter pill, even those of them who are still refusing to admit that their friend of many years—the longest and highest bull market of them all—is now dead as a doornail. The past three and a half months have left swarms of investors dispirited, and uncertain which way to turn.

• **Blow to Morale**—There's nothing so shattering to morale as a market in serious decline, as any Streeter will tell you if his memory extends back to the early 1940s, or to 1937-1938, much less to 1929. And the blow is especially severe when the decline comes after an extended period in which a happy combination of factors has kept both skilled market technicians and the greenest neophytes eating high on the hog for an inordinately long time.

One commentator sums it up this way: "Declining markets are both unpleasant to contemplate and worse to experience" for "negative emotions are stronger than positive emotions. Worry hurts more than hope helps; fear can be more destructive." As a result, "bear markets proceed faster than do bull markets."

To prove his point, this analyst points to what has happened since mid-July, when in three and a half months the market has accumulated a loss that's just about as big as the 12-month bull market climb that began in mid-September of 1953.

• **Some Saw It Coming**—The many investors who now find themselves in the soup didn't have to plunge into the tureen; not all market counselors have been insisting that the bull market that

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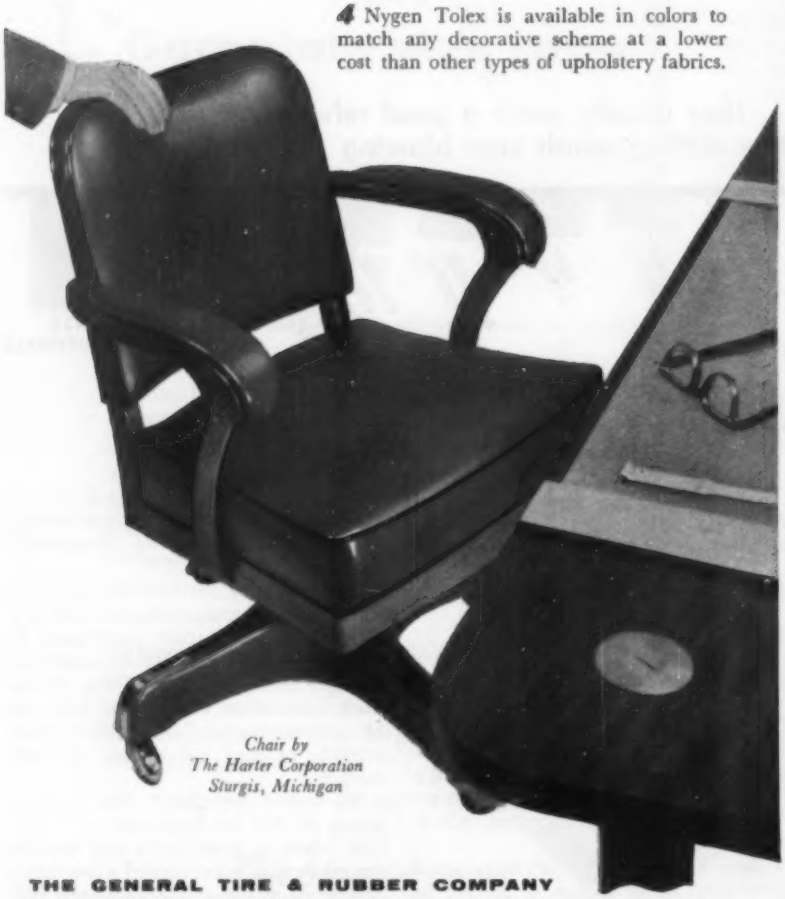

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began in mid-1949 was still going strong. Way back 16 months ago—just before the bull market finally reached its peak—some long-visioned seers began urging their clients not to try to wring out the "last quarter-point" from their holdings (BW—Jun.30'56,p60). Instead, they proposed that it was a good time to consider some judicious hedging to protect extensive paper profits and to prepare for less happy times whose distant clouds they detected on the economic horizon.

The advice that these hardy dissenters clamored in the bullish desert of 16 months ago is being updated for use by harassed investors. In remodeled form, it runs something like this:

Build up cash reserves. This can be done in two ways. By taking paper profits on boom-type issues—or losses, if these can be turned to tax advantage. By withholding investible funds until the fogs now obscuring the market have been cleared away.

Upgrade the portfolio. The quality of holdings can be improved by ruthlessly disposing of essentially second-grade issues and using the proceeds to buy investment type commons to be held for the long haul.

Switch to the defensive. This means getting out of cyclical and growth stocks, even the finest blue chips, and turning to the defensive shares.

The first two of these hedging methods have obvious disadvantages for the average investor, who needs the income from his portfolio to eat, just as he would suffer if he got out of the market entirely till things cleared up.

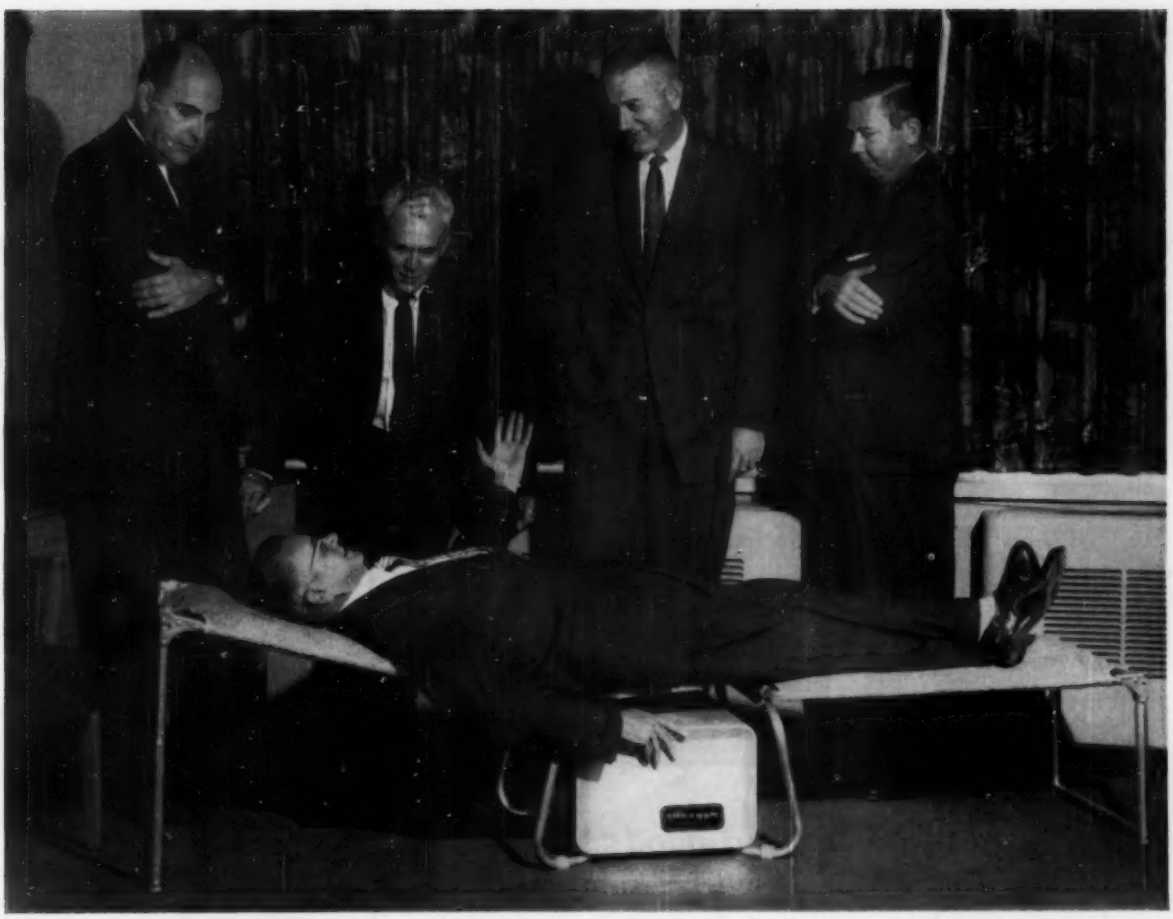
• **Hard on Income**—Clearly, both the building of cash reserves and the process of upgrading would reduce his income. Even though bank savings, pushed up by the money squeeze, offer relatively high interest rates, they can't match the income that is now available on many of the stocks that would be involved in hedging. And the yield from these "risky" shares is also greater than from bonds, even the new offerings, and the highest grade commons.

In the light of these disadvantages, it's easy to see why the switch to defensive equities has been the most popular protective move among investors, especially those vitally concerned with month-to-month income.

These now-popular defensive shares are only a minority of the number of issues traded, but they are a very important minority. In the list of shares best able to resist the weaker economic periods are the electric power utilities, food manufacturers, and food retail chains, along with some parts of the retail trade, banks and finance companies, and the makers of cigarettes.

• **Boom Time Laggards**—To be sure, the time-tested strength of these shares in periods of stress has its obverse side:

(*Advertisement*)



How To Help Keep Your Key Men Fit

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MANAGEMENT has a big investment in top flight executives. With these key men in short supply today, firms across the nation are faced with the grave problem of keeping their executives in good health.

Tied to his desk, today's executive is often unable to get *regularly* the exercise essential to good health. He builds nervous tensions while adding dangerous pounds to his weight. Or he becomes a "weekend athlete"—cramming all his exercise into a day or two of violent activity that could seriously strain his heart.

Happily, there is now a way to avoid these dangers. It's the Stauffer Executive Fitness Program...the modern way to:

- Get essential exercise *effortlessly* ...without fatigue.
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All this is accomplished with the help of the unique Office Gym ®. Perfected by pioneer figure control expert, B. H. Stauffer, it is the heart of the Stauffer Executive Fitness Program. (Furnishing of Office Gyms to executives, in a health program, would be tax deductible.)

A half hour on the Office Gym provides essential daily exercise—importantly, without fatigue. Executives report that this exercise makes them feel wonderfully relaxed...relieved of mental strain...actually mentally sharper. They say an Office Gym session—at home, or in their office—can be one of the day's most pleasant periods.

Consistent use of this program of effortless exercise and calorie reduction helps remove excess weight and restore a trim figure without starvation diet or strenuous exercise.

You simply lie down on the Office Gym and let it go to work—gently massaging and exercising you while you relax. No need to undress; just take off your coat, kick off your shoes. If business has to intrude, you can use the time profitably in dictation or in reading business reports or summaries.

The Office Gym is completely portable, weighing but 32 pounds. It can be stored in small closet space, and is ready for use—in your home or in your office—in seconds.

The Stauffer technique has been proved over a 20-year period. It is the basis of the famous Stauffer Home Reducing Plan which is helping women throughout the country reshape their figures.

If you would like further information about the Stauffer Executive Fitness Program and how it can be of value to your firm, write: Stauffer Executive Fitness Program, Dept. B-117, 1919 North Vineburn Avenue, Los Angeles 32, California.

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Normally, they lag well behind the parade during booms. And, as the top chart on page 55 shows, what bull momentum they do feel often peters out while growth shares and other volatile issues in the cyclical and speculative categories are still growing strong. For anyone questing for substantial capital gains, the defensive stocks have little charm in bull periods.

When the storm flags go up, that changes swiftly. At the start, the really smart money takes to the defensive bullrushes. Bolstered by this money, the defensive shares give a better price performance than the average of the market during long and steep declines (lower chart, page 55).

This situation is explained by one old-line Street firm, in suggesting that "investors . . . might well give consideration to shifting a portion of their holdings into defensive stocks." This is true, says the brochure, simply because the trades involved "are generally regarded as being recession-proof, with earnings and dividends virtually unaffected by business adjustments such as we are presently experiencing."

• **Electric Power**—The producers of electric power remain just about the most popular of the defensive shares. It's true that the group hasn't been performing quite as satisfactorily as it generally has in similar periods of the past. This relative lag springs from the effect of the money squeeze on the industry, which since the war has fed the biggest capital issues, both bonds and stocks, into the new-issues market (BW—Jul.13'57,p68).

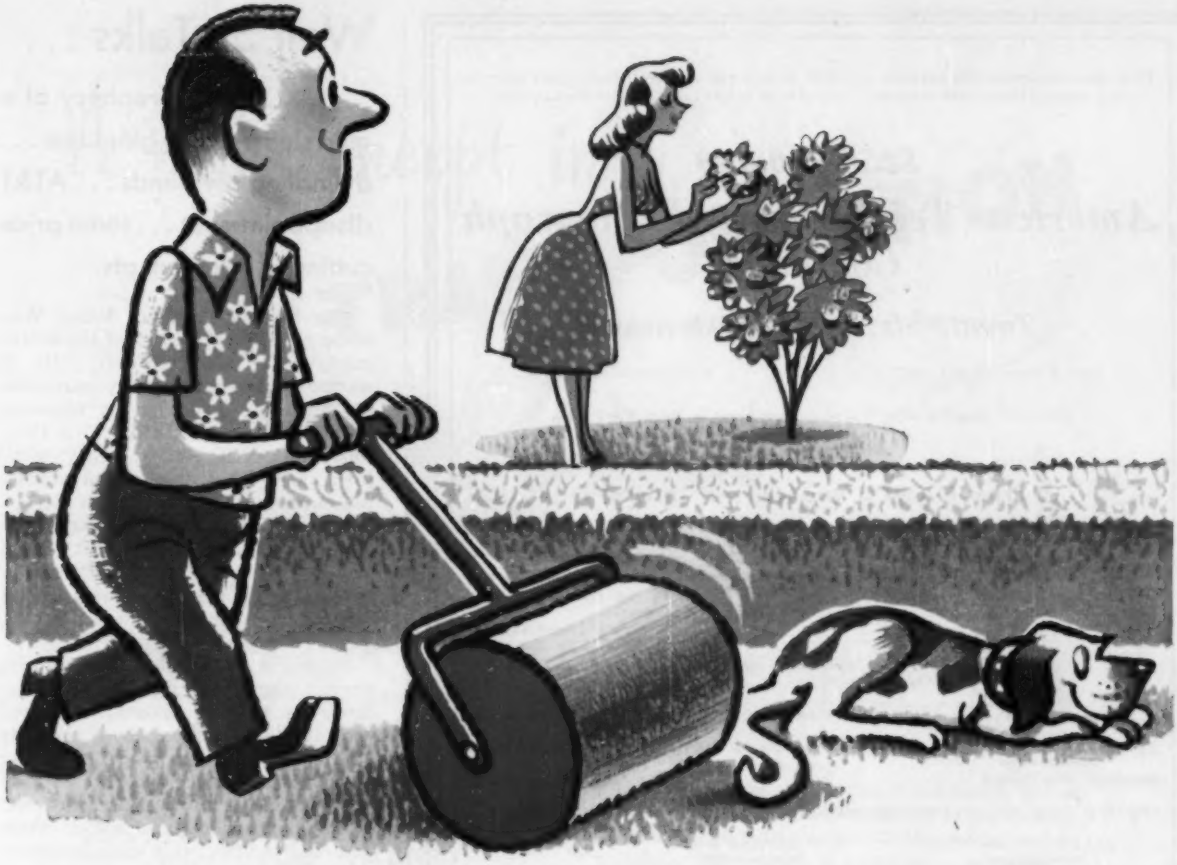
The lag, most Streeters believe, is only temporary—a view shared by most non-Street counselors. Thus Standard & Poor's insists that "electric utility stocks have defensive characteristics" and "affording secure income, merit inclusion in well-rounded portfolios." Moody's Investors Service feels much the same, commenting that "investments in the group can be regarded as soundly placed" since the shares "remain reliable income investments."

• **Time to Be Choosy**—Just the same, many counselors argue that you can't buy defensive stocks blindly and still expect to see all their admitted virtues show up automatically in times of stress. The greatest rewards come when they are bought just as carefully as any other type of stock.

Generally, it is held that the greatest security is found in companies that are:

- Well established in their trades.
- Soundly financed.
- Well managed.
- Most important, have above average records both for stability of earnings and continuity of dividends.

Shares that combine all these virtues are not too hard to find, if you'll take a few minutes to comb the lists. END



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American Telephone and Telegraph Company

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Interest payable May 1 and November 1 in New York City

Price 101.461% and Accrued Interest

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Wall St. Talks . . .

. . . about prophecy of a mild slump and a giant rise . . . dwindling dividends . . . AT&T disappointment . . . some price cutting in tax exempts.

One Streeter's opinion: Arthur Wiesenberger & Co., Boswell of the investment trust trade, predicts: "(1) A decline in business activity—maximum of 10%; (2) a decline in corporate earnings—maximum 18%; (3) a Dow-Jones industrial average below 400—it was 520.77 last summer and recently was around 428—a maximum decline to 350-375 range." But Wiesenberger also expects the readjustment period will be brief—"no bear market"—followed by "another great bull market carrying us to materially higher levels."

Clouds in the dividend skies: There were 27 cuts and omissions of dividends in the last month, compared with 10 a year earlier, says a compiler of Street data. By the same token, there were boosts in only 29 cases, compared with 68 in October, 1956. For the whole January-October period, there were 381 increases this year, compared with 679 in the 1956 period; cuts and omissions were 182 as against 101.

Streeters were disheartened by the initial response to American Tel & Tel's latest bond offering: the $250-million 26-year 5% debentures that went on sale last week. By Election Day, two-thirds of the bonds were still unsold, as the big institutional buyers boggled at the 4.9% offered. It is reported they had expected a 4.95% or 5% basis.

Buyers still hold the whip hand in the tax exempt market, too, though the price structure is generally firm. Price cutting has appeared here and there, under pressure of supply-demand conditions. A sizable inventory of unsold remnants has been building up from the latest new offerings—$256-million of them appeared early this week. And $469-million more new issues are slated for the next 30 days.

Technical matters: "At the market" orders have been scarce on both the buying and the selling side . . . tax selling remains heavy. November is normally bullish for industrial stocks, a stand-off for the Big Board rails. In the past 59 Novembers, industrials have risen 34 times, compared with 29 for the rails.

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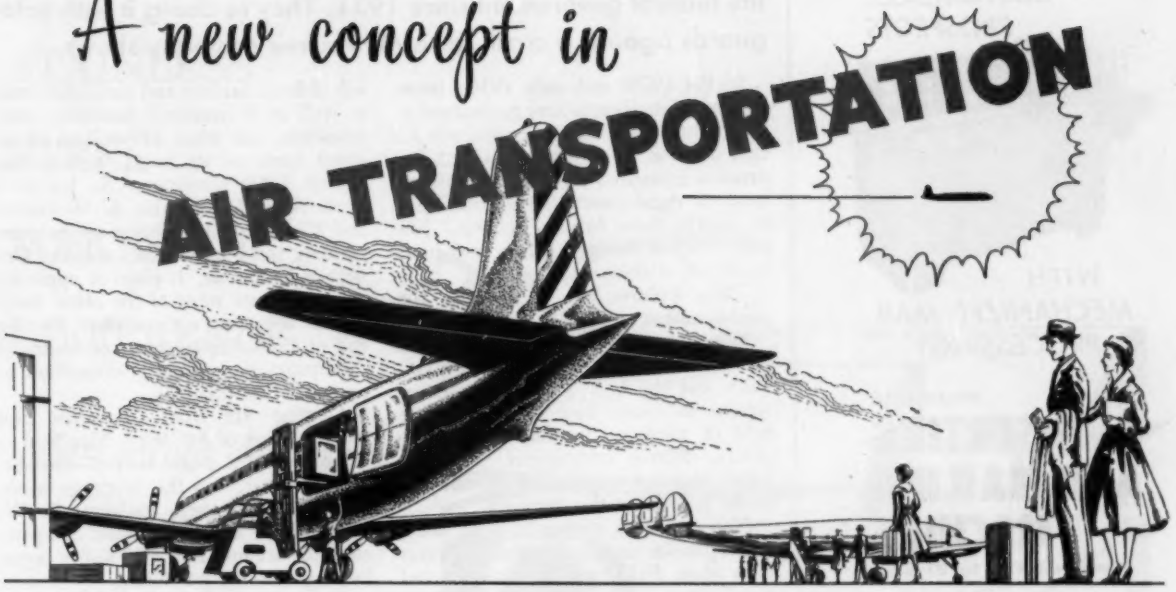

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Revival of Mortgage Insurance

Private companies are edging back into a field left to the federal government since 1934. They're doing it with safeguards against a crash, as a Milwaukee company shows.

In the 1920s and early 1930s, many residential mortgages were guaranteed by private companies set up exclusively for that purpose. But when the Great Depression brought a wave of foreclosures, most of these concerns were swamped by claims from insured lenders. Nobody insured the guarantors, and practically all of them went broke.

These failures led in 1934 to the establishment of the Federal Housing Administration, a government agency in the business of insuring home loans. FHA and the later Veterans Administration for years have dominated the field of mortgage insurance and guarantees. Private institutions, with the bitter memory of the crash, had no desire to resume this business.

Now, however, money is tight, lending agencies demand higher interest rates than FHA and VA allow, and people seem willing to pay them. Lenders, who have long preferred the more profitable conventional mortgages, are shunning the government guarantees in favor of the higher yield of regular mortgages. And these, too, may be insured as in the old days, if plans work out.

• **A Fresh Try**—In the last few years, several groups have thought of moving into mortgage insurance—with safeguards against a repetition of the 1930s.

Two companies, in Texas and in Colorado, proposed to enter the field but failed to get started. Guardian Insurance Corp. of Baltimore has an application before the Securities & Exchange Commission to sell $3-million of securities as part of its entry into insuring not only mortgages but also savings and loan accounts, now the province of the Federal Savings & Loan Insurance Corp.

The U.S. Savings & Loan League seeks to encourage private insurance of mortgage loans. At its request, Sen. John Sparkman (D-Ala.) has introduced a bill under which the government would insure the top 20% of a mortgage that covers 80% of the value of a house. This is designed to reduce the risk to private insurers of marginal mortgages.

• **Milwaukee Enterprise**—However, the longest and widest experience in private mortgage insurance seems to have been gained by the Mortgage Guaranty Insurance Corp. of Milwaukee, formed in April, 1956, with $500,000 from 65 local investors.

This company, which has the blessing of local bankers and real estate men as well as Wisconsin's insurance commissioner, has some $13-million of insured loans on its books, representing almost 1,000 mortgages. So far, it is licensed to do business in Wisconsin and Illinois and has license applications pending in 10 other states and the District of Columbia. It plans to apply for admission into most of the other states within the next six months. By the end of 1958, the company estimates, it will insure more than $500-million in residential mortgages.

• **Getting Its Start**—Chairman and moving spirit of MGIC is Max Karl, a 47-year-old real estate lawyer. Karl became interested in the mortgage insurance business when a client, S. W. Kallas, asked him if a private company could be set up. Karl and Kallas began looking into the possibility.

Karl applied for a Wisconsin license in April of last year and finally got it last February. MGIC is chartered as a stock company. Kallas is executive vice-president, and Ray P. Hiller, an expert in mortgage financing, is president.

It is complicated and costly to start a mortgage insurance company, Karl says, and this is a major reason why there have been so few attempts during the past 20 years.

"It involves considerable study of loss experience, methods of operation, underwriting policy, and management problems in this specialized field," Karl explains. "While it is classified as an insurance business, the knowledge of real estate practice is more essential than insurance experience.

• **Safeguard**—Wisconsin's insurance department looked at Karl's applications carefully. A spokesman for the department explains that MGIC was "an entirely new venture and we approached it rather cautiously."

"It is very closely regulated," he says. "It is an insurance company and is regulated that way. But, to be on the safe side, we stipulated additional, special requirements—particularly on reserves."

The Wisconsin insurance commissioner requires MGIC to set aside 30% of the premiums earned until the reserve equals five times the current premiums in force. Karl says the 30% figure was determined as the equivalent of FHA's accumulation of reserves. MGIC, however, has set aside another 10% voluntary reserve to protect against losses. MGIC can invest its reserve

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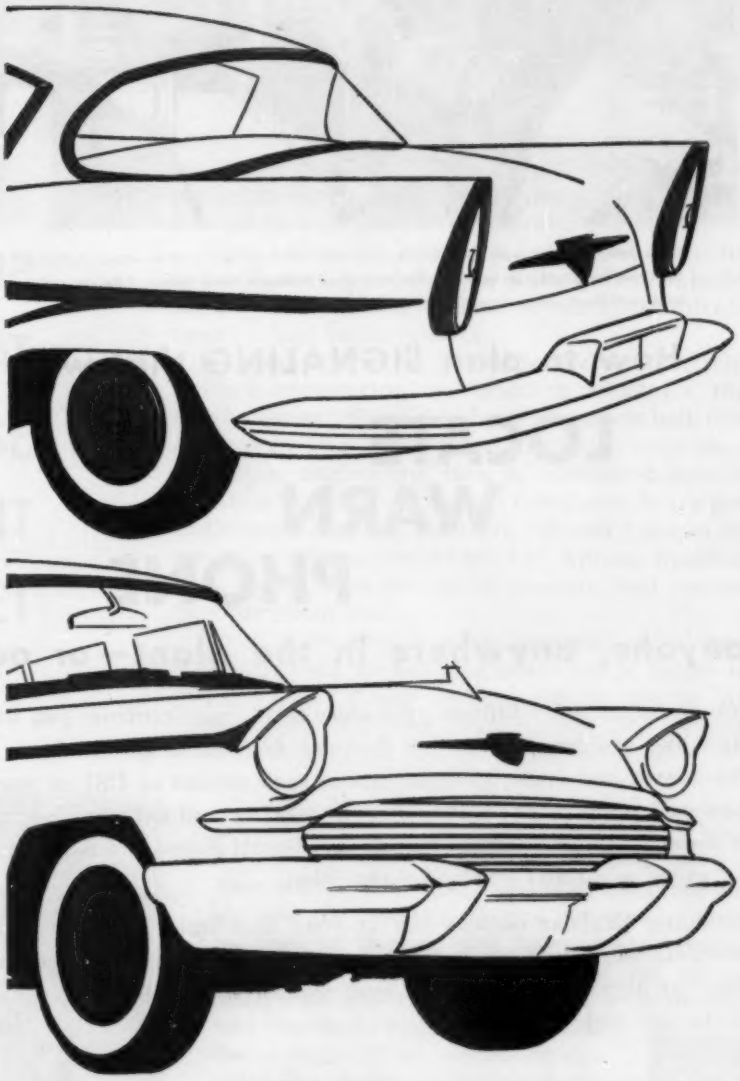

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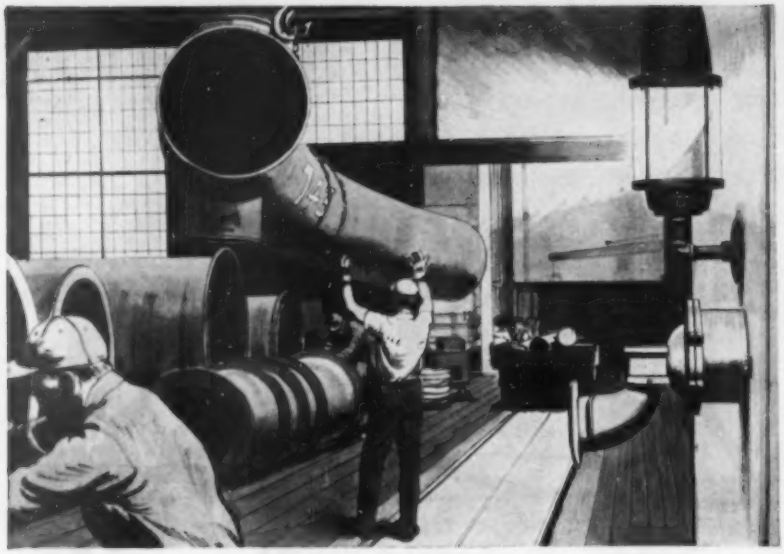

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funds only as provided by Wisconsin statutes. They're invested in government bonds, and in savings and loan associations up to the government-insured limits.

MGIC is negotiating for a satisfactory reinsurance contract. Karl is taking his time about contracting for reinsurance, partly because he feels it is not absolutely essential in the light of the strong reserve requirements required by the insurance commissioner.

• **Insurance Terms**—Before it will insure a mortgage, MGIC insists the home must be owner-occupied residential property, housing not more than eight families. The borrower must present a satisfactory credit report and amortize the loan within 25 years. MGIC will insure first mortgages only, covering up to 80% of the property value set by an appraisal acceptable to MGIC. There is no limitation on the interest rate charged by the lender.

Karl says his company does not dictate or control interest rates. "Why should there be a limit on the interest rate?" he asks. "Why single out the real estate market for deflationary control. It amounts to an attempt at price fixing in a single industry, not prevailing in any other phase of the economy."

The company restricts itself to insuring residences only because, says Karl, "the home is the backbone of the real estate market.

"That gives us a much better chance of survival in a depression than if we insured farm or commercial property."

MGIC insists on amortized mortgages because they reduce the principal and give increasing equity. Borrowers must make a downpayment of at least 20% of the value of the house.

• **S&L's First**—So far, MGIC has done business almost exclusively with savings and loan associations. "We started with the S&Ls first," explains Karl, "because traditionally they were making higher percentage loans. Our program is designed to insure such loans."

However, MGIC is beginning to attract business from banks. So far, however, most of the interest has been on the part of smaller banks. The larger institutions have a different attitude.

A vice-president for one of Milwaukee's biggest banks says: "MGIC doesn't fit into our pattern because we make mostly 50% loans while building and loan associations make mostly 70% to 75% loans. However, I think it is probably of great advantage to building and loan groups which make high percentage loans."

• **Who Pays?**—The average amount of loans insured by MGIC is $14,000, and the average interest rate is about 5.9%. About 95% of these loans originate in the Milwaukee area.

The premium on the insurance sold

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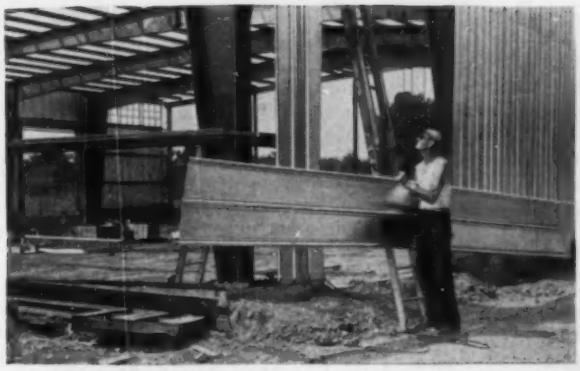

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by MGIC is paid by the borrower. It isn't tacked onto interest but is paid as a separate item, much like a fire insurance premium. Generally, lenders collect the premiums in installments along with the monthly mortgage payments, as does FHA.

• **Premium Rates**—Lenders have an option of annual or single-premium rates. The annual rate is 0.5% of the original mortgage principal, payable at the beginning of the first year, and 0.25% of the balance of principal at the beginning of each succeeding year.

Single-premium rates account for only 20% of MGIC's business, although Karl says they represent a 25% saving. "It's difficult for a borrower to come up with a large premium at the closing," he explains.

• **Prospects**—What happens to MGIC if money loosens and the FHA's interest rate becomes favorable? "If that happy state occurs," Karl says, "our selling point would be simplicity of procedure. FHA's commitment time is four weeks—it takes us three days to commit or reject."

In the event of easier money, Karl adds, competition will force lenders to take on higher percentage loans. "Once lenders are in higher brackets, they will look for security and that is what our insurance plan offers," Karl says.

FINANCE BRIEFS

Interest rates on mortgages on commercial buildings have jumped 0.25%, the National Assn. of Real Estate Boards reports. In a September survey in 125 cities, the association that found 34% of its members surveyed said borrowers were paying 5¼% interest, up 0.25% from the previous prevailing rate.

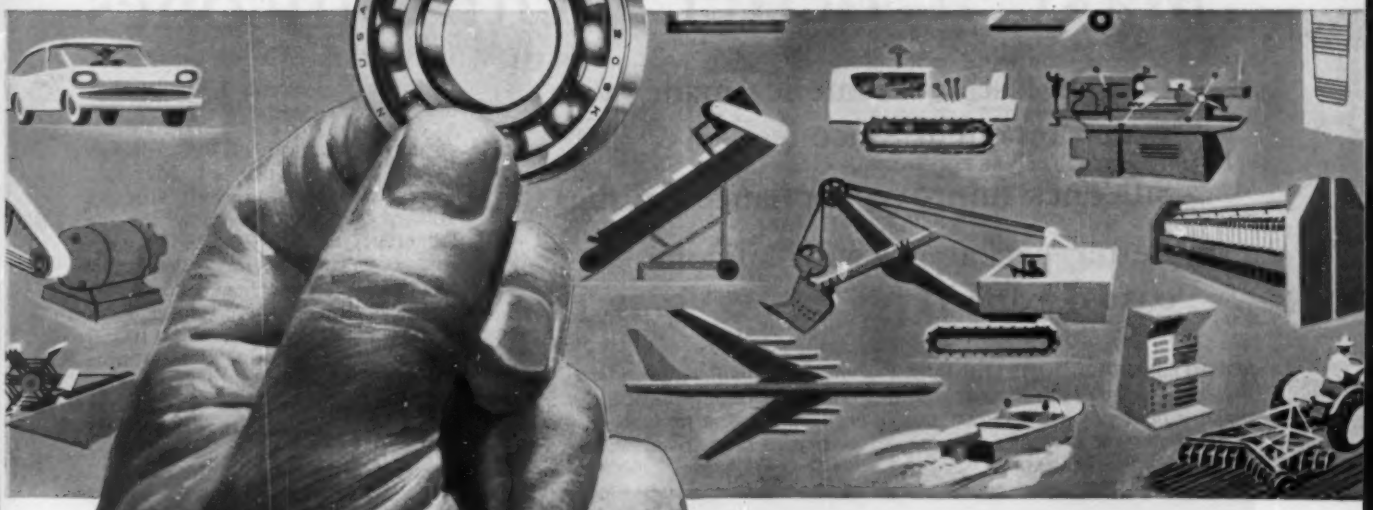
•

Auto dealers will be paying higher interest rates on notes held by the major sales finance companies. General Motors Acceptance Corp., for example, hiked the interest rate to 5½% from 5% on "floor loans" on new model cars. The other major sales finance concerns are following suit.

•

The nation's fifth largest banking institution, and the second largest in California, opened for business this week. The Security-First National Bank, with resources of about $3-billion, was formed through merger of three major Southern California banks—Citizens National Trust & Savings Bank of Riverside, the Security Trust & Savings Bank, San Diego, and the Security-First National Bank of Los Angeles.

DIVERSITY



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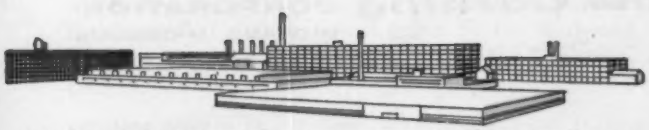

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SOMETHING OLD, SOMETHING NEW, *something familiar but different, too... this is the range of products being improved with Dow Corning Silicones. Why make it better with silicones? Lower production costs for one reason. But as these current examples indicate, silicones also help create more customer satisfaction, more sales.*

LONGER LASTING LOTIONS — Yesterday: no matter how often Mrs. Consumer applied hand lotions, her skin was still vulnerable to household detergents and cleaners.

Today: the cosmetic industry is marketing longer lasting and more protective beauty preparations made with Dow Corning Silicones. Already an accepted ingredient in sun-tan oils, hand creams and baby lotions, the silicones turn back water like an invisible glove . . . help keep the soothing ingredients on the skin longer.

Latest survey found most name cosmetic houses evaluating silicones for products ranging from hair sprays to foot ointments. And they're telling their customers about silicones, too. More and more, at cosmetic counters everywhere, you hear Mrs. Consumer say, "I'll take the one with silicones."

NEW APPLIANCE "SALESMAN"— The familiar refrigerator display cases in our supermarkets have long had a coating equally familiar . . . porcelain. Now, there's something new under the fluorescents . . . chip resistant silicone enamels.

A major producer of these display cases, Scherer-Gillett of Marshall, Mich., reports that their silicone finished cabinets stay new looking longer . . . do a better job. The silicone enamel—Nubelon S, made by Glidden — has excellent color retention; withstands more abuse from shopping cart impacts, food stains, and abrasive cleaning compounds. Available in several attractive colors, the silicone enamels enable Scherer-Gillett to produce cabinets that weigh less, cost less to ship, and are easier to handle and install.

Next major area of application for enamels made with silicone resins? Right now they're rapidly gaining favor in the home appliance market.

PACKAGING STICKY PRODUCTS? Then consider the new silicone coated papers and paperboards now available. Virtually nothing will stick to these new packaging materials, thanks to the anti-adhesive silicone coating developed by Dow Corning. Applied at the mill, the silicone coating makes it possible for users of paper bags, boxes and wrappers to get even the stickiest products out of containers without waste. Producers of rubber, asphalt, adhesives, sticky foods . . . all can now offer their customers greater convenience and ease of handling at little or no extra cost. In the photo you can see how adhesive tape flicks off a silicone coated interleaving paper while clinging to an untreated paper.

FOR MORE INFORMATION **on any of these silicone products or applications, write Dept. 2223**

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• • •

Government's Cache of Vital Materials Due for Scrutiny by Citizens' Group

A review of the nation's stockpile of strategic materials is impending. The job will be done by an 11-man citizens' advisory group, of which a Chicago banker, Holman D. Pettibone, has been named head. Pettibone helped manage the sale of government synthetic rubber plants to private industry.

The stockpile, consisting of some 75 materials, is now almost full—and worth something like $6.5-billion. The review is prompted by two factors:

• Military planning now assumes any war will be nuclear—and short.

• Congress is clamoring for economy.

Despite rumors to the contrary, Defense Mobilizer Gordon Gray says the government is not of a mind to get rid of any of its stockpiles.

• • •

Conversion of "Little Inch" to Oil Again Stymied in U.S. Appeals Court

River barge operators have once more blocked plans of Texas Eastern Transmission Corp. to use its "Little Inch" pipeline for crude oil instead of natural gas.

The U.S. Court of Appeals, on a plea from the barge interests, ordered the Federal Power Commission to reconsider its action allowing Texas Eastern to abandon the line as a gas carrier.

The delay was won on a technical argument: **The FPC unduly shortened proceedings by omitting an examiner's report between oral arguments and its final order. The court told FPC to rehear the entire case.**

A year ago, the same court upset a conversion order on grounds that FPC hadn't sufficiently considered the damage it might do to barge operations. Whatever FPC does now—it can accept the ruling or appeal to the Supreme Court—it's still a good bet that "Little Inch" will eventually be converted to oil.

• • •

Asian Flu Vaccine With More Zip Coming Dec. 1 From Manufacturers

A more effective Asian flu vaccine is on the way. U.S. Surgeon Gen. Leroy Burney has asked the six licensed manufacturers to switch to a more potent product by Dec. 1.

The vaccine released so far has contained 200 CCA (chicken cell agglutination) units per cubic centimeter. (CCA is material that stimulates the body to produce antibodies that protect against attack by the flu virus.) The new vaccine will contain "at least 400 CCA units" per cc.

MORE NEWS ABOUT GOVERNMENT:

• P. 70 Federal Forecasters Peer Ahead Into Many an Area of the Nation's Economy.

Burney's order to the manufacturers followed a report from a special medical advisory group that increasing the CCA content would improve the vaccine's effectiveness.

This week, Burney also disclosed first results of a newly inaugurated national health survey, authorized by Congress. The findings:

• 8.5-million persons were ill at least one day in the first week of October with colds, sore throats, flu, or similar ailments.

• A daily average of 2.5-million persons went to bed with such infections during the week.

• • •

Census Counts 172.4-Million Noses In U.S.; Increase Biggest Out West

The U.S. now has 21.7-million more people than it did in 1950, the Census Bureau said this week. Current U.S. population is estimated at 172.4-million.

Highlights of the bureau's newest report on trends:

• The average population gain since 1950 is 11% per state.

• Far West and Rocky Mountain states grew at more than twice that rate—23%.

• Nevada showed the biggest percentage gain (60.1%) but it's still the smallest state in population (current estimate: 256,000).

• California grew the most numerically (2.8-million, a 27.2% increase since 1950): It now has an estimated 13.4-million residents.

• New York is still easily No. 1 in population (with an estimated 15.8-million), but its rate of gain since 1950 is only 6.7%, well below the national average.

• • •

Combustion Engineering Antitrust Case Ended by Consent on the Day It Began

A federal antitrust suit against Combustion Engineering, Inc., began and ended the same day.

Simultaneously, the Justice Dept. filed the suit, and the company signed a consent decree, agreeing to withdraw from an alleged worldwide cartel. The company makes power generating equipment for electric utilities, railroads, and steamships.

Justice's Antitrust Div. accused Combustion Engineering of joining with 12 foreign manufacturers in a scheme to divide world markets for their steam generating and fuel equipment. **Company officials denied any illegal activity and said the consent decree was accepted to avoid long and expensive litigation.** The decree will "not impose any hardship" on their foreign business, they said.

FORECASTS ABOUT THESE AREAS OF THE ECONOMY FOR THE YEAR AHEAD...	MADE BY THESE AGENCIES...	AT THIS TIME OF YEAR...	FOR THESE REASONS...	ARE DRAWN UP IN THIS FORM...	THIS YEAR THEY WRESTLE WITH QUESTIONS LIKE THESE...
GENERAL BUSINESS	Council of Economic Advisers	January	Required by Employment Act	Broad generalities, no statistics	Will business softness turn into a recession?
	Joint Economic Committee of Congress	January	To check on Administration programs	Forecast of Gross National Product and other major indicators	
	Agriculture Dept.	November (always first to be announced)	To help farmers make production decisions	Fairly specific predictions	
24 MAJOR INDUSTRIES	Business & Defense Services Administration (Commerce Dept.)	December	Used by business	Trends in volume anticipated in six months ahead	Which industries will do best?
CORPORATION PROFITS	Treasury Dept.	January	To forecast tax revenue	Informal announcement, bare of economic reasoning	Will the cost squeeze worsen?
PERSONAL INCOME	Treasury Dept	January	To complete the tax revenue forecast	Informal announcement	Will this bright spot stay bright?
CONSTRUCTION	Commerce Dept.	November	Used by industry and by other forecasters	New construction in 25 categories	Will homebuilding start to pick up?
ELECTRIC POWER OUTPUT	Federal Power Commission	December	To guide private and public expansion projects	Estimates of needs through 1980	Will present slowdown in growth rate continue in '58?
PETROLEUM SUPPLY AND DEMAND	Bureau of Mines	January	Used by industry, used by states to fix production quotas	Annual forecast in January, monthly forecasts throughout year	Will demand pick up, easing oversupply problems?
FOREIGN TRADE	Commerce Dept. (unofficially)	January	Requested by trade organizations	Compilation of forecasts by the organizations involved	Will excess of exports over imports continue to widen?
FARM PRICES	Agriculture Dept.	November, reviewed in April	To guide farmers	Trends for major crops	Can production be held down?
SPENDING FOR PLANT AND EQUIPMENT	SEC and Commerce Dept.	March (first government forecast of such spending for '58)	Among the most important indicators of business trends	Survey of businessmen's intentions to expand facilities	How big will the expected dip be?
EMPLOYMENT	Bureau of Labor Statistics	December, for first quarter of '58	To classify areas by degree of labor surplus	Survey of business intentions to hire	What's the real impact on jobs of defense cutbacks and business slowdown?
CONSUMER BUYING	Federal Reserve Board	March	To discover the mood of consumers	Survey of intentions to buy, general conditions	Will today's zestless but high-level buying continue?
MINERALS SUPPLY AND DEMAND	Bureau of Mines (unofficially)	September, for balance of year	Requested by private groups	Forecast based on articles in trade press	When will softness in raw materials end?

Prophecy Along the Potomac

The season for economic forecasting by government opens in little more than a week, with more than usual at stake. The forecasters this year have to face up to the oldest hazard in their relatively new craft: how to talk about a business downturn without endangering either their professional reputations or their jobs.

It's not that the professional economists in government see a major recession. But they are going to chalk up a number of minus signs, in a wide range of industries, when they try to guess what is going to happen in 1958. And this will make both members of Congress and top figures in the Executive Dept. nervous—particularly with an

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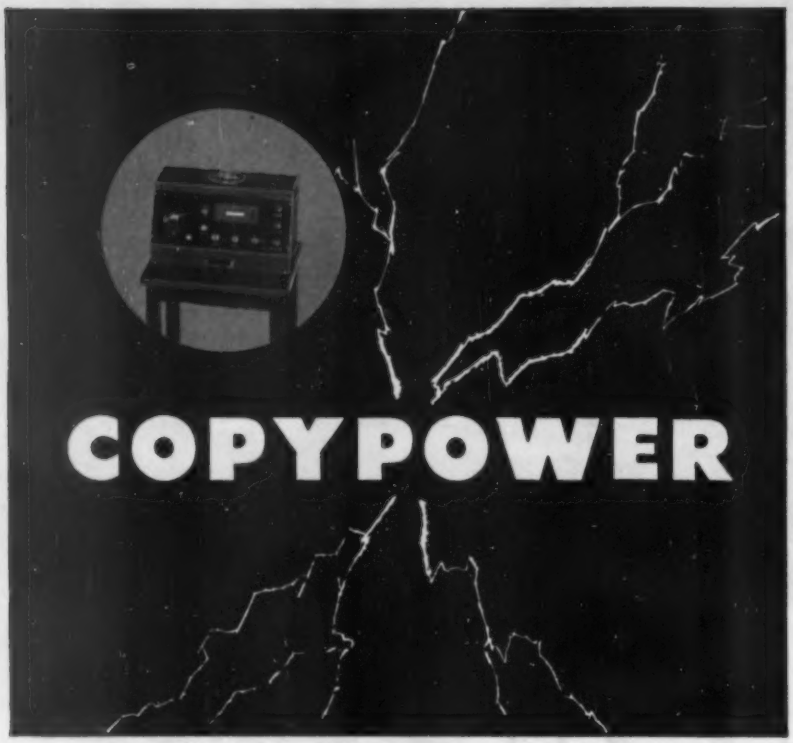

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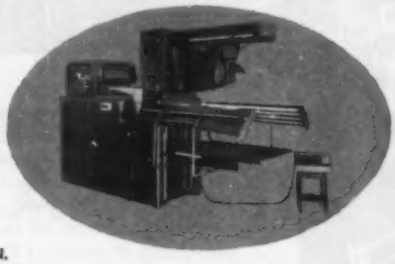

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"... the amount of forecasting done is a surprise to most people ..."

FORECASTING starts on p. 70

election coming up in November, 1958.

As the chart on page 70 shows, government agencies peer into the future of a wide variety of businesses, for a lot of reasons. In addition, they make assessments of what the total economy can be expected to do as measured in gross national product, national income, and the like.

• **Official Skepticism**—The amount of forecasting done is a surprise to most people, even to those in government who work in the field. And it is done in face of the official government line that "we don't do any forecasting." Some key economists in the Administration actually don't approve of forecasts; they consider them overloaded with scientific pretensions. Raymond J. Saulnier, chairman of the Council of Economic Advisers, is one of the skeptics. So was his predecessor, Arthur F. Burns.

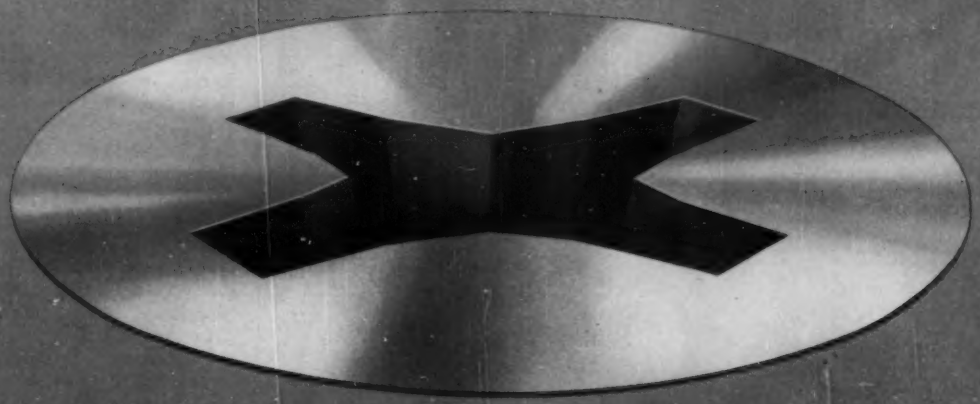
When the Eisenhower Administration took over in 1953, some doubts were expressed about the wide range of forecasting, with the idea that it ought to be curtailed. The idea soon died. It was explained that the Dept. of Agriculture outlook conference—for example—has been held annually for a generation now and could not be halted without seriously disrupting the flow of economic advice to the land grant colleges and thence to farmers.

More recently, Commerce Dept. construction forecasters were called before a Bureau of the Budget committee to justify their work. The question was asked: Is this a proper function of government? The answer, from representatives of some 15 agencies, was a resounding yes. They want more construction forecasting, if anything—even if it turns out wrong sometimes.

• **Modest Prophets**—The men who do the government forecasts are modest about their work, almost to the point of apology. They are aware of its weaknesses, and constantly plead with outsiders not to take it too seriously. Most of them know the statistical tools at their disposal are inadequate, and that their techniques are crude. Most of them even agree with the most fundamental objection of all to economic forecasting: that there is no such thing as a purely "economic" future, hence little excuse for trying to forecast one. They have reason to know better than most what such noneconomic influences as wars and politics have to do with the imaginary world of pure economics.

But the professionals' own doubts

Cut assembly time—lower production cost



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and warnings do nothing to dry up the demand for their product. They take comfort in the thought that if they cannot forecast with scientific accuracy, at least they can reduce the uncertainties that confront public officials and businessmen about the future.

• **Lesson of 1927**—The problem they face today—what to say about an expected downturn—is as old as government forecasting. The first lesson was learned in 1927, when the Agriculture Dept. forecast lower cotton prices. Actually, cotton was already dropping. But the forecast coincided with a sharp downward plunge, and the government was accused of having caused the break.

In the storm of controversy that followed, cotton producers became convinced that they had been mistreated. Every year since then, Agriculture's appropriation bill has carried specific instructions that the price of cotton is not to be forecast. It is the only commodity on the prohibited list; producers of other commodities value the price forecasts as a protection against speculators and processors. But the cotton story remains alive in the annals of government forecasting as a constant reminder that jobs—quite literally—are at stake.

The forecasters adopt a number of protective devices. Some offices heatedly deny that they forecast; they anticipate. Others follow the Agriculture Dept. and insist that they merely discuss the outlook. Some say their work is limited to "specific assumptions of major variables." Others refer to "conditional projections or predictions of the most probable outcome of a stated combination of assumptions." But they all try in one way or another to throw light on the future.

• **Trio of Types**—These looks ahead, actually, fall into three distinct types:

Outright forecasts. A few use the word without embarrassment. The petroleum products and construction forecasts are cases in point. These are based on information from industry, plus adjustments for over-all expectations on the trend of business as a whole. The economists involved obtain confidential information from the Council of Economic Advisers on its view of the outlook for employment, prices, and production, to make certain that they do not come up with a version of the economy at variance with what the President is going to say in his Budget Message or Economic Report to Congress.

Another group actually consists of forecasts, although the word is avoided. The industry-by-industry forecasts prepared by the Business & Defense Services Administration are in this category.

Projections. In pure form, these merely extend recent trends into the future. In practice, projections are of-

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ten heavily weighted with subjective judgments. One leading practitioner of the art was driving home from work a couple of weeks ago, his head buzzing with questions about consumer expenditures. At a traffic light, an automobile carrier loaded with 1958 models pulled alongside. The economist contemplated what he could see of the new models, decided he didn't like them, and next day knocked $3-billion off the consumer spending outlook for 1958.

The professional staff of the Joint Economic Committee of Congress prepares the best known projections in government, and it always points out that a projection is not a forecast. But the staff also recognizes that it is dealing with something more than arithmetical exercises. Acting Staff Director John Lehman, in a speech before the International Statistical Institute at Stockholm a few months ago, said they were not forecasts or prophecies "within the meaning usually attached to these words." But in the every-day world of decision making in Congress and the Administration, the Joint Committee's projections are likely to be judged as though they are forecasts pure and simple.

Surveys of intentions. This look-ahead device is gaining the most friends these days. The survey of business intentions to invest in new plant and equipment, taken jointly by the Commerce Dept. and Securities & Exchange Commission, is the government's prize exhibit in this field. It yields results markedly closer to what actually happens than the best projection experts have been able to achieve with their own technique.

An intentions survey is also taken annually among hog producers as to how many sows they intend to breed. Right now, the results of this year's survey are being used to try to beat down the expected 7% rise in farrowings next year.

The Federal Reserve in March each year publishes a survey of consumer intentions to buy, which is widely used as a guide to the future.

The Commerce Dept. is now preparing a new intentions survey—to throw light on what businessmen have in mind regarding inventories.

This technique throws the forecasting burden onto someone else—the people surveyed. If they turn out to be wrong, or if they change their minds because of changing circumstances, then no blame goes to the survey maker. But, like projections, the intention surveys have all the impact of outright forecasts once they are let loose in the Washington climate. And they are repeated year after year for the reason that they do throw useful and dependable light on the future. END

Left: A 9-pound mold of electroformed copper for a 21-inch doll. Soft vinyl "skin" (center) was withdrawn through neck opening. Finished doll at right.

How a new kind of copper keeps little girls happier

Doll heads also are cast inside molds of electroformed copper – like that shown at left above.

THE PROBLEM: Little girls are fussy. Dolls must have carefully modeled features, toenails, and fingernails – have skins that feel soft and smooth. So most doll bodies and heads are now formed of velvety-smooth vinyl plastisol, cast in precision, one-piece copper molds.

Making molds is tricky. The Plastiplate Co., South River, N. J., a leader in the field, does it this way. A wax or vinyl master model of a doll gets a thin, conductive coating of silver. Then copper is built up on the silver in an acid-copper electroplating tank to form a shell about one-eighth inch thick. When the model is removed, the copper shell becomes a one-piece doll mold. With ordinary copper anodes, great care was required to make sure that molds were uniformly accurate in detail – that they could stand the strains of production in automatic casting machines.

THE SOLUTION: Two years ago, Plastiplate tried out "Plus-4"® (phosphorized copper) Anodes in one electroplating tank. The molds from this tank were superior in uniformity, strength, and toughness. The deposit was better on hard-to-reach surfaces, demonstrating the greater "throwing power" of "Plus-4" Anodes. Scrap was cut and tank maintenance simplified. Now all of Plastiplate's tanks are supplied with "Plus-4" Anodes.

THE FUTURE: In the rapidly growing field of electroforming – for all kinds of intricately shaped parts requiring high precision – "Plus-4" Anodes will play an ever greater role in cutting costs, improving quality. They illustrate how Anaconda and its manufacturing companies – The American Brass Company and Anaconda Wire & Cable Company – constantly seek better ways of doing things with nonferrous metals and products. For help in your metal problem, see the *Man from Anaconda*. The Anaconda Company, 25 Broadway, New York 4, N. Y. 87390

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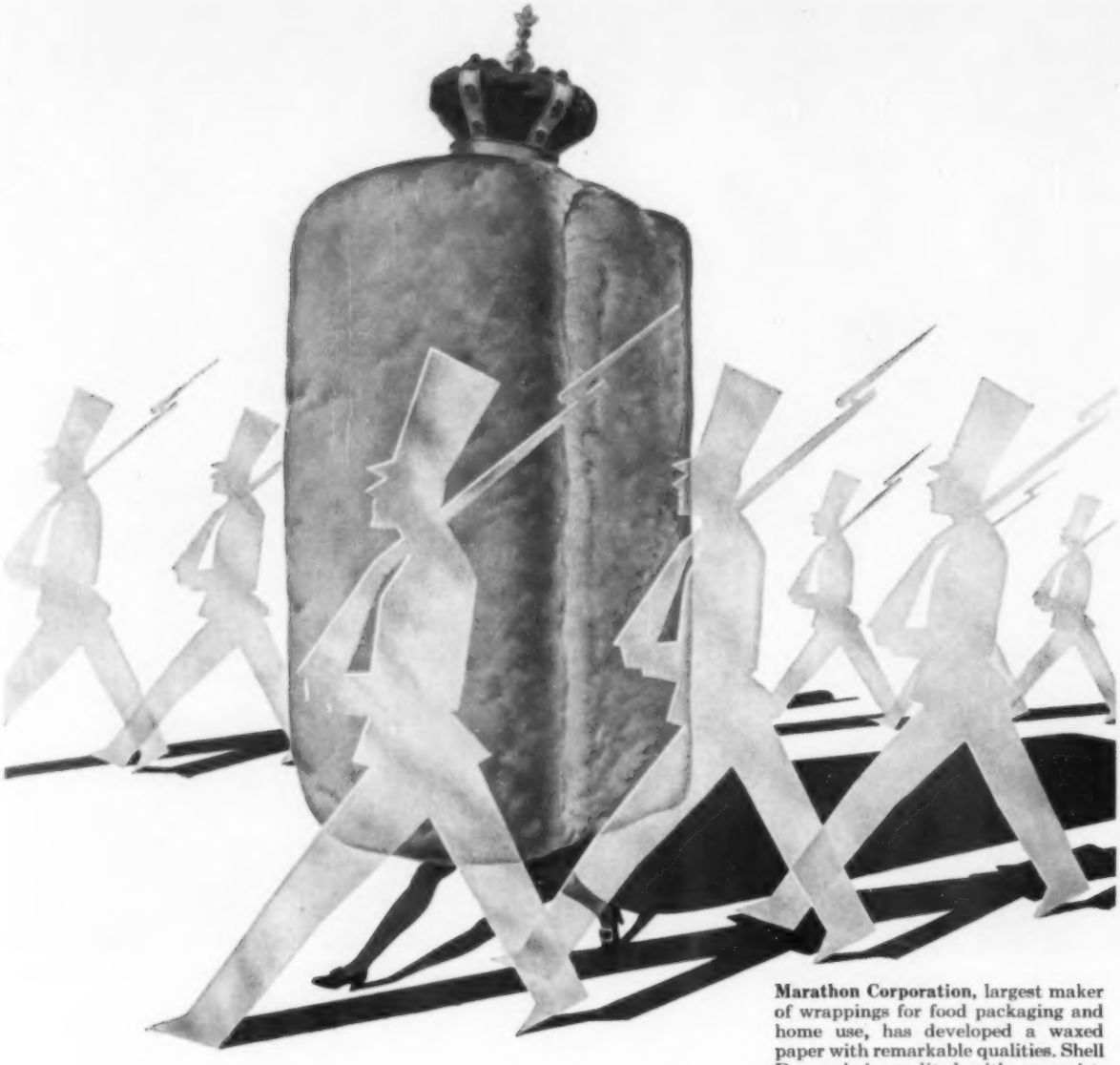
FORCE 58 TRUCKS



Marathon Corporation, largest maker of wrappings for food packaging and home use, has developed a waxed paper with remarkable qualities. Shell Research is credited with an assist.

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Because the *wax* itself is so important, Marathon Corporation always seeks improved quality. Recently, working with Shell scientists, Marathon solved a problem basic to food packaging.

The problem: To develop a waxed paper that would not melt and stick together during shipment to bakeries—yet one adhesive enough to form a seal around the loaf. *The answer:* A blend of waxes leaning heavily on a micro-crystalline type extracted from petroleum by a Shell technique. This new combination of waxes solves the problem, and also makes Marathon's wrappings resist cracking when cold.

Developing new and more useful products from petroleum is a primary objective of Shell Research. A never-ending search for better ways of doing things assures you better products wherever you see the red-and-yellow Shell trademark.

Leaders in Industry rely on Shell Industrial Products

SHELL

Giant Questions Plague Detroit

● The auto industry is solidly optimistic for 1958, hoping to top 6.2-million sales, but some executives have begun to doubt their own favorite axioms.

● They wonder: Whether there is still a solid market for medium-priced cars.

● Whether the more-or-less exclusive dealer will have to be replaced by the auto supermarket.

● Whether the popularity of small foreign cars means a real massive shift in U.S. tastes.

● The 1958 market will give some answers.

This week the automobile industry started a new selling year as most of its 1958 products went on display. It will be the industry's most important postwar year. It may be the end of an era; the shattering of long-cherished ideas. After next year a new set of concepts may emerge in Detroit.

On the surface all is serene. Detroit is more optimistic now than it has been since mid-1955. And with good reasons:

Never since 1955 have the auto makers been so excited about their new products, so convinced their cars are in tune with changed and changing consumer tastes.

• **Easy Credit**—Credit, which is involved in the purchase of more than 60% of all new cars, is readily available; downpayments are low and terms long.

The 1955 buyers who bought on exceptionally easy credit terms have either paid off their debts in full or have only a small amount still due. If historic patterns mean anything, nearly 2-million of the 7.2-million 1955 buyers will be in the market for 1958 cars.

Weighing those factors and general economic conditions, auto forecasters see car sales in 1958 of at least 6.2-million and most probably somewhat higher—compared to an estimated 6.1-million this year.

• **The Ifs**—In this picture of orderly growth, why is 1958 so important, what is wrong with the automobile industry? That is just the point that makes for uncertainty in Detroit: Maybe nothing is wrong. If 1958 sales jump to 6.5-million or more cars . . . If the so-called medium-priced cars take about 36% of the total market. . . . If sales of foreign cars level off . . . you would have a difficult time convincing any automobile man that there was anything seriously wrong with the concepts on which he has been running his business.

Still, there is just enough belief in Detroit that all those "ifs" will not materialize that a few highly placed executives are doing deep soul-searching. Up to now they don't pretend to have any answers. But they have some questions that, should they be widely circulated, could rock the industry.

I. The Product

It is nearly impossible to wrap these questions up into separate packages; many of them hang on others. But the key ones—the ones that involve the basic concepts taught every budding automobile executive since the 1920s—orbit about the product.

Is there a "medium-priced" market?

For many years, auto people have been conditioned to think of the market as being neatly divided into three well-defined segments. The young buyer, and the huge group of low-income wage earners customarily bought a "low-priced" car, the Ford-Chevrolet-Plymouth class. The young buyers who moved up a step in the business world, and the great middle income population, naturally bought a car priced just above the low-priced vehicles, a "medium-priced" car. And the very well-to-do and the wealthy had their own car class—the Cadillac, Lincoln, Packard, and in late years, the Imperial.

Since the war the broad medium-price grouping, ranging from the Dodge up to the expensive Buick Roadmaster, has always accounted for 40% or a trifle less of total car sales. This is the price bracket in which there are more cars competing than in any other; this is the price bracket that is thought to be so important that Ford Motor Co. this year gambled $250-million to enter a new name, the Edsel.

• **Shifting Shares**—Something, however, has gone wrong with the industry's nice, comfortable compartmentalization—if you lay any store by figures for the past two years. In 1955, Pontiac, Dodge, Mercury, Buick, Oldsmobile, De Soto, Chrysler, Nash, and Hudson tallied 40.8% of total sales. In 1956, their share was down to 36%. Through August of this year it was 31.5%.

Studying those figures, you'd conclude that the medium-price group is in trouble, for the low-priced and high-priced cars have been increasing their shares of total sales. Some executives think it is. Others dissent; they point out that the 4.5% drop in the medium-priced share of the market this year is mainly due to the 3.85% combined decline of Buick and Olds. If those two makes do well next year. . . .

Is the entire thinking about today's price brackets due for revision?

• **Moving Up?**—Perhaps, muses one important auto man, what have been regarded as "low-priced" cars—the Fords, Chevrolets, and Plymouths in particular are now "medium-priced" cars and there is a new market below the so-called low-priced three. That's the market the small imported cars, led by Volkswagen, are sopping up.

There are a number of puzzling contradictions in this area of the market. As a generalization, most of the Fords, Chevrolets, and Plymouths sold cost the customer "$2,500 or more." If there is a market for a car costing less than $2,000, Detroit executives ask themselves, why don't more people buy the radio-less, six-cylinder, two-door, manual transmission Fords, Chevrolets, Plymouths, Ramblers, and Studebakers that can be bought in many cities for less than $1,800? That, essentially, is the kind of automobile you get when you buy a small imported car.

• **Alien Charms**—Maybe the fault is in the product; these stripped U.S.-made cars still cost more to operate than the imports. The auto companies have put motivation specialists to work on why people buy foreign cars, particularly the Volkswagen. The only indication the companies will talk about: The bulk of the Volkswagen buyers are in an income group that spends lavishly on everything else.

Perhaps the buyers of the small imports already own a bigger car (some of the studies show this); so they are buying a second car. Nearly 6-million U.S. families, by one estimate, own more than one car. Or, perhaps the

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You Can Expect More From TMI Stainless Steel and Special Alloy Tubing Because TMI Builds More Quality Into It!

METALLURGISTS, ENGINEERS, MANUFACTURERS—SPECIALISTS IN SMALL DIAMETER TUBING .050 TO .625 O.D. WITH TOLERANCES AS CLOSE AS .001 WHEN REQUIRED
TUBE METHODS INC.
BRIDGEPORT (Montgomery County), PA.

". . . 'maybe this means we'll have to build fewer models; hardtops and station wagons in one make; two-door sedans in another' . . ."

STORY starts on p. 81

buyers of foreign cars are those who otherwise would buy used vehicles. If this be true, there goes another anchor post of Detroit philosophy: that there is no big market in this country for a small, stripped model because of the availability of millions of late model used cars. But suppose next year the sales of imported cars—which jumped from about 50,000 in 1955, to 98,000 in 1956 and an estimated 200,000 this year—level off.

• **Annual Change**—Is it really true that U.S. motor makers must make sweeping appearance changes every year to maintain their place in the market?

To practically every auto man in Detroit this is a ridiculous question which has been answered affirmatively time and time again. Still, one of the industry's most respected and important persons recently said: "I wonder about it. Volkswagen has never changed drastically, and yet look at its appeal."

Detroit's record book is full of instances tending to show the importance of the annual model change. Back in the 1930s, Buick changed very little in one year—and slid steeply in the market place while the industry as a whole moved up in sales. Recently, there is the case of the 1956 Ford which appeared very similar to the preceding year's model and took a heavy thumping from Chevrolet. But in that year the total sales were off about 20%.

• **Chrysler Test**—There is hardly any auto executive who is not wondering how Chrysler products will fare next year. It takes a trained eye to detect the difference in appearance between the 1957 and 1958 Chrysler line cars. Will Chrysler maintain or increase its 19% share of the market? "If they do," says a top man of a competing company, "it means all the rest of us have been wrong all these years."

As important as are the questions hanging over Detroit's product, there are some equally fundamental questions being asked about the time-tried method of distributing the product.

II. Archaic Selling

More than one man concerned with the distribution of Detroit's principal product is coming to the conclusion that the method of selling automobiles is archaic. Once Detroit's distribution system was the envy of all other manufacturers of consumer durables. The auto industry's buyers—the dealers—were rigidly controlled and in various ways persuaded to dispose of the number of products the manufacturers wanted to build whether the dealers felt able or inclined to sell that number. And, by-and-large, a dealer handled only one factory's product.

• **Super Markets**—Those days are gone, all auto sales people agree. Is the next step a trend to auto "supermarkets?"

To one man who spent more than 20 years directing auto sales efforts, auto supermarkets must come—but in a form not anticipated a few years ago when the growth of "bootlegging" hinted at the retailing of many makes of cars at one location. What this man means by an auto supermarket is a giant lot—he thinks new cars must be sold outdoors for proper display—with the cars neatly arranged by model and type: all six-cylinder, standard transmission, four-door sedans here; all eight-cylinder hardtops over there; and so on. Each car would be marked with its price, and a price subject to little if any dickering.

"A customer could walk through, just as he does in a food store," says this executive, "and pick out the car he wanted. No ordering. Dealers lose sales when they don't have a car in stock the customer wants and has to wait several weeks for the factory to build. Maybe this means we'll have to build fewer models; hardtops and station wagons in one make; two-door sedans, hardtops, and wagons in another make. A dealer has to carry a complete selection and with all the various models we build today he wouldn't be able to."

• **"Warehousers"**—Most present-day dealers, says this man, are "warehousers," not merchants. "They should study Sears," he says, "and Kroger's and the big department stores to learn how to merchandise and sell products. Dealers today sell price, nothing else."

Over at another big auto company, an equally high-placed executive enters a strong dissent. With the changes made in factory-dealer relations in the past two years, and with dealers selling every year 6-million cars, he can't see where the automobile distribution system is due for cataclysmic change. And he has a point, if next year sales increase substantially.

Can the franchise system itself be maintained in the face of the growing number of "dual" dealers handling cars of more than one factory?

Actually, the only new aspect of the present situation that finds medium-priced dealers taking on franchises for American Motors' Rambler, or for foreign cars is in the numbers of dealers involved. Auto companies have not, for a number of years, had an exclusive

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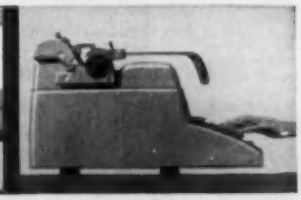

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clause in their franchise agreements, and in a few small market areas there have always been dealers dualing in products of competitive factories.

• **Dualing**—So no responsible Detroit executive thinks that what is happening now is tearing at the vitals of the franchise system. But some of them remark in wonderment at the seeming strength of the tendency to dual. Generally, the second car an established dealer takes on is a small car, most, of course, made abroad. What does this indicate—awareness by dealers of the supermarket concept of giving the customer a wide choice of products? Extreme price resistance in the medium-price field? Or just bandwagon-jumping to ride a fad? If sales of imported cars level off next year, if the medium-priced market comes back strong. . . .

III. Maintenance Crisis

With 67-million cars now on the road, and the number increasing by nearly 3-million a year, how can they be maintained and repaired?

There is hardly a car owner in the country who doesn't have his own pet story of indignity visited on him when he had the misfortune to need work done on his car. Automobile manufacturers and dealers are sympathetic, but nearly helpless. Dealers lack manpower, facilities, and space.

Perhaps, thinks one man, dealers will have to separate their service facilities from their selling facilities. This might solve the space problem, but the search for young men who want to be career mechanics is unrewarding. The Automobile Manufacturers Assn. claims 40,000 new mechanics will be needed each year for the next 18 years.

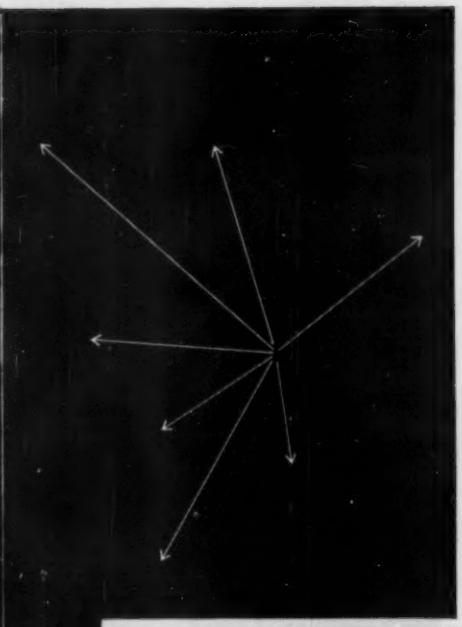
A more permanent solution to the servicing problem is staggeringly imaginative for the auto industry: replaceable, "plug-in," type units. Pull into a garage and in 15 minutes a mechanic replaces the ailing part, and you go on your way, while the faulty unit is returned to the factory for rebuilding. This is a deceptively simple idea; simple because it already is in vogue for other consumer durables; deceptive because what might be customary in other industries entails, for the auto industry, a whole new concept in design and construction of cars. Anyone believing otherwise has only to try to find (let alone remove) such a common "replaceable" item as a spark plug in the engine of a 1958 car.

IV. Quest for Salesmen

Regardless of the future of auto supermarkets, regardless of dualing, just where are auto dealers going to find salesmen?

The one thing, most Detroit people

Automatic casing and packing equipment by Standard-Knapp Division for a progressive brewer.



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Forehearth and feeder prepares glass for forming into containers—by Hartford-Empire

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". . . finding, training, and keeping salesmen is one of the auto industry's gravest problems . . ."

STORY starts on p. 84

agree, that dealers need more than anything else—more even than new techniques of displaying or merchandising—is more salesmen. That doesn't mean men to stand around and quote prices to people who drift into a show room. The dealers can get bodies (even if they can't hold them). Factories have always insisted that good dealers are second only to steel in the auto spectrum. So a good salesman becomes a dealer—whose main job is to get good salesmen.

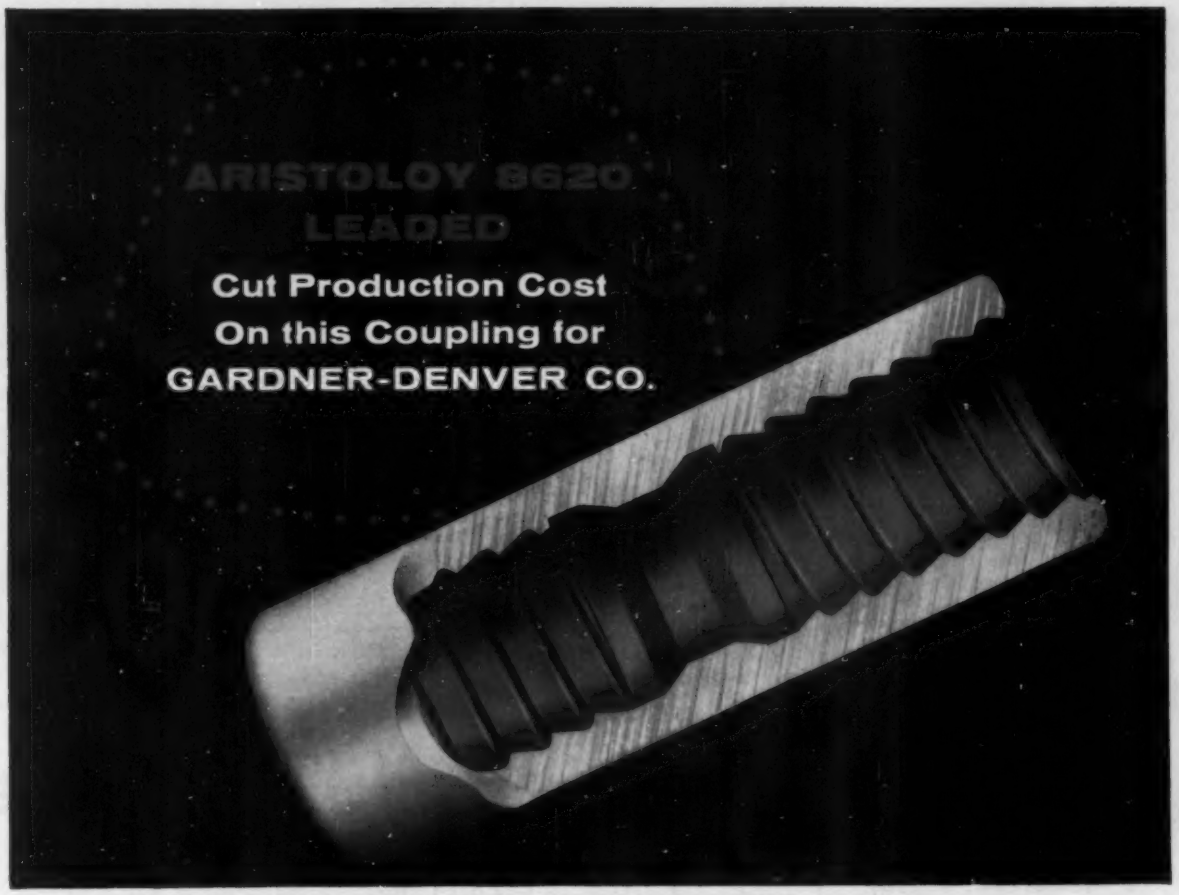
Training of automobile salesmen is in its infancy. One reason is that no one yet has found a way to make selling cars a profession. One Midwest dealer regularly canvasses the business administration graduates of schools in his area, seeking raw material for training. He has very few takers. The young men have eyes only for industry, even though selling automobiles can be one of the country's most lucrative occupations.

• **Training Plans**—The big auto companies are taking this problem as their own. For years they have put dealers through special factory schools; now they are gingerly dipping into the training of dealers' salesmen. The National Automobile Dealers Assn. is winning Detroit support for a proposal for a retail selling institute. And General Motors two months ago took A. H. Belfie, general sales manager of Buick, and gave him the new assignment of figuring out ways and means of recruiting and training salesmen.

Finding, training, and keeping auto salesmen at the moment is one of the auto industry's gravest problems. But suppose prospects next year pound down dealers' doors to buy new cars as they did in 1955? Will all the plans and all the thinking be shoved under the rug?

• **Worries**—The same question can be asked about all of Detroit's problems. For the simple fact is that the mental probing now going on in certain plush offices in Detroit is because in 1955 the industry sold 7.2-million new cars, in 1956, 5.9-million, and will sell perhaps 6.1-million this year.

There seems to be some rifts in Detroit's lute that played so sweetly and so strongly and so long. But as yet, only seems to be. A few are convinced there really are some cracks; others feel there might be. So, until 1958 sales confound or confirm, the questioning, the probing, the analyzing, will go on. **END**



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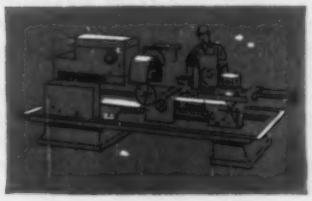

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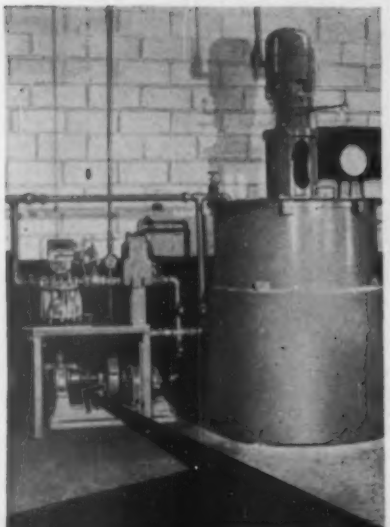

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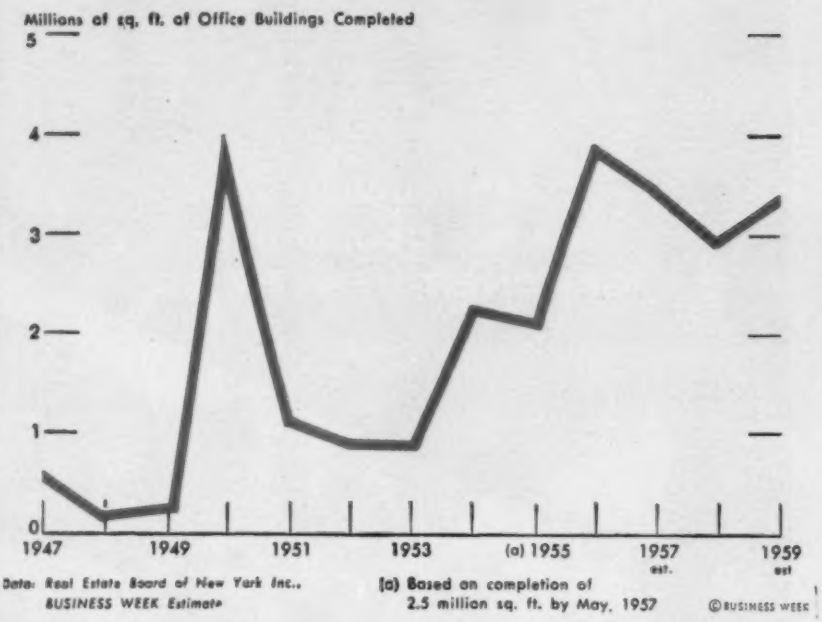

Office Building Spree

Builders are convinced the boom will roll along for a number of years yet, but the halt in construction of Astor Plaza has made them a lot more cautious.

While Astor Plaza may be a special case, other projects are having more difficulties than before with building costs, financing, and renting.

When Vincent Astor flashed the stop sign a few weeks back on his glamorous Park Avenue office building (just a pile of debris in the picture at the right), a chilling breeze swept over Manhattan: Was this the end of the fantastic splurge in office building construction in New York City?

Now, after mulling it over, the building industry has pulled in its distress flags. It's convinced its immediate doleful reaction was too hasty, that the boom still is rolling along. It cites two reasons:

• Astor's woes in financing his 46-story Astor Plaza project—although symptomatic of several soft spots in New York's office building boom—are being written off as a special case involving the sponsor and his backers.

• Some 6.5-million sq. ft. of additional office space is firmly scheduled for the next two years (chart above). And there are about 29 other office buildings in the blueprint stage that should tack on another huge chunk.

• **Warning Sign**—But even though it has decided not to take alarm, the real estate trade isn't entirely happy with what it sees. Obviously, the boom in for-rent office building has passed its crest. In 1956, 3.9-million sq. ft. of office buildings were completed. This year, only 3.5-million sq. ft. will be finished. No year on the immediate horizon promises to add so much space to Manhattan's supply, not even 1959, which could record another 3.4-million sq. ft. of space completed. For in 1959, much of the new space will be taken up by non-competitive buildings, such as the Union Carbide Corp. building, which won't allow for too much non-company tenancy.

• **Lenders' Theory**—This discouraging sign has led an impressive group of mortgage brokers, big lenders, and bankers servicing the building industry to

EXCAVATION has halted on this Park Ave. site for 46-story Astor Plaza project.

. . . Does This Mean the Peak Is Over?

in New York Loses Some of Its Pep

turn on the amber caution lights. Say these money men in the real estate field: The pep in the building boom has petered out. From here on in, space seeking businessmen will be more picky about tenancy, look for more deals with builders. In turn, builders will be forced to begin construction with few, if any, tenants firmly signed up. The days when an office building is 100% rented—as the Socony Mobil building was—before a spade is turned will be few and far between.

Lenders, so the reasoning goes, will then get a lot more cautious with their mortgage money—although it always will be available for sound projects. They'll demand a higher tenancy rate before they let a builder replace his construction loans with a long-term mortgage that will be his permanent financing. And then they might do it only piecemeal—in ratio to a builder's tenancy rate—instead of in a fat lump sum.

• **Early Symptoms**—As yet, real estate money men have little to prove their theory. But here and there curbstone talk hints at industry ailments: Tenant negotiations are more irksome, high construction costs belabor builders, and there's more difficulty in obtaining "take-out" money—or permanent financing.

One possible sign that the boom may be easing off is that buildings with high construction costs, and thus high rents, are having difficulty filling up their metal-sheathed towers.

The Seagram building is a good example. Whereas most office buildings are rising at a cost of about $30 per sq. ft., 375 Park Ave. reportedly costs twice that much. Its rents reflect it. Midtown office space still is available at an average of some $5.75 per sq. ft., but in the Seagram building the average is up to $7.50-$8 per sq. ft. and choice space, in the corner of the tower, runs far higher.

For this reason, the tenancy rate is lagging. The building is close to 75% rented, but it's scheduled to be completed next May. And about 25% of the total space is being taken by the builder's sponsor, Seagram Distillers Corp.

• **Depression Memories**—Caution is not a new word with the building industry. Its members don't roll superlatives too easily off their tongues. Their product, unlike apple pie and autos, can't be consumed in one gulp or outdated in a year or two. And the industry remembers only too well its last big spurt 25 years ago, which ended in the Depression, to forget the striking parallels to the current boom.

As today, New York's 1925-33 boom added office space at about 3-million sq. ft. a year. The pattern was somewhat similar, too. At first, space was moderately priced, then land values zoomed and prices skyrocketed. But by 1934, some 25% of the city's above-ground level space stood empty.

• **Slow Start**—When the boom ended, the industry practically closed up. It built cautiously, spread out its program. Even after World War II, when the vacancy rate hit rock-bottom at 0.2% in 1947 and demand stared the industry right in the eye, builders reacted deliberately. The first few postwar years were hampered by a shortage of materials, but, in addition, the "tread softly" attitude was evident. In 1947, two buildings were completed; in 1948, three office buildings went up; in 1949, only two. During these three years, in which only 1.2-million sq. ft. of space were added, the industry gained confidence. As the shortage of materials eased, it began to lay the foundations for the postwar building boom.

In 1950, the dam broke; 12 new office buildings were completed, some 4-million sq. ft. of space were etched against New York's skyline. The building boom, with time out for Korea, dates from that year. But the "tread softly" attitude has persisted, and when Vincent Astor stubbed his toe on Park Avenue the whole industry felt jolted.

• **Renting Troubles**—Taken one by one, Astor's troubles—at least those on the surface—are indicative of Manhattan's current mixed building scene.

At the time that he decided to post-

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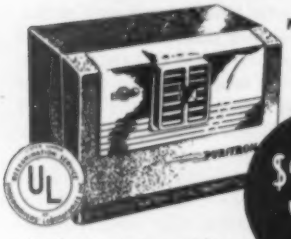

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pone building indefinitely, he had tenants lined up for about 30% of the 1.1-million sq. ft. proposed for Astor Plaza. Hanover Bank was down for about 200,000 sq. ft. and the Astor-owned Newsweek was signed for about 100,000 sq. ft. In addition, Astor is said to have assurances—letters of intent from prospective tenants—for about 250,000 sq. ft. more. This slow pace of rental—in comparison to earlier years when choice space was gobbled up—reflects two recent developments: (1) Tenants aren't willing to sign leases until they're sure a builder will go through with his plans; and (2) when they do sign leases early they're asking for more favorable renting terms.

• **Serious Effect**—These two factors could have a deep effect on the building boom, for lining up triple A tenants early in a building's life plays an important role in its future:

• It means an easier path to mortgage money. All lenders are swayed when a top corporation puts its name on a builder's lease.

• It is an inducement to other tenants to sign leases.

In Canada House, 680 Fifth Avenue, for example, the fact that such bellwether tenants haven't signed up has kept the tenancy rate abnormally low. The builders had expected the Canadian government to be one of the key tenants, but so far it hasn't signed a lease. (In addition, Canada House's rate per sq. ft. is even higher than the Seagram building.)

• **Financing Difficulties**—Astor's other main concern, money, ties in with his slow rental pace. Astor Plaza's 50% tenancy evidently isn't enough to satisfy the prospective lenders, a syndicate of New England insurance companies and certain other groups. They would prefer about a 65% tenancy rate. Another hitch apparently is the syndicate's refusal to put up as much mortgage money as Astor originally had expected—despite Astor's proferred 5¼% interest.

It's clear that Astor could obtain mortgage money from other sources if he had a mind to. But the reluctance of his original lenders to put up permanent financing—even on a 50% tenancy rate—doesn't bode well for builders. Without such permanent financing, banks won't advance, except to their pet builders, interim loans for actual building construction.

• **Other Takers**—"If Astor Plaza were built, though, and I'll bet it will be in some way or another," says one mortgage broker, "there surely won't be an empty building on Park and 53rd."

This thought is echoed throughout the industry. Perhaps the best sign of this is the willingness of real estate men to fit themselves into Astor's position. Says Louis J. Glickman, chairman of Glickman Corp., whose vermillion-colored office building is slated to replace Carnegie Hall in about four years: "I would be willing indeed to take Astor Plaza off Mr. Astor's hands today and proceed with a new financing formula and new concepts of design and construction tailored to today's problems."

• **Encouraging Signs**—Builders cite many figures to defend this faith in a continued boom.

• Of the 15 office buildings under construction in New York, all but a few high cost projects are renting at a satisfactory clip. It's true, though, that the pace is quicker in those areas where new office buildings are somewhat of a novelty, such as New York's downtown district.

• The New York Real Estate Board estimates a vacancy rate as of May 1, 1957 of only 1.3%—a decrease from the 1.4% of a year earlier. It says this is evidence of continued demand.

• In the prewar buildings, where any lessening of demand is expected to show up first, there has been a solid increase for the first nine months of 1957 over the comparable period in 1956. The total square footage leased is up nearly 6% and aggregate rentals are up 20%, according to L'Huillier S. Sheaff, president of Cushman & Wakefield, Inc., one of New York's biggest real estate agents and brokers.

• Builders have come forward with specific proposals for the four Park Avenue buildings that now are being tossed back and forth in the board rooms of the New York Central and New Haven railroads. The builders reportedly have even lined up prospective tenants for the properties.

How much longer will the boom last—now that the peak appears to have passed? It depends on the programming. As long as an abundance of buildings doesn't crop up in any one area, the saturation point shouldn't be reached for a number of years—unless the general business situation changes abruptly.

Many blue chip companies still want to locate in the city; the trend toward the suburbs seems to have been reversed. Others who aren't consolidated would like to move their decentralized units under one roof.

Then there's a whole horde of second-line tenants—attorneys, accountants, small companies—who would like small sections of office space but haven't been able to get it. This group of tenants will sustain the boom for a while—but if builders start depending on them, it will tip off the end of the splurge. When a builder starts accepting second-line tenants, and partitions off space for them instead of renting it in one large chunk, the industry can start waving its distress flags in earnest. **END**

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Doing Something About Weather

● Commercial meteorologists are working for farm and industry, as employees or as consultants, and saving an estimated $200-million a year.

● Savings to businessmen could be more than doubled, the experts say, if weather work was more widely known and accepted. Right now, such service is a novelty.

● The profession is taking its first steps to (1) police its own members, and (2) coordinate its work with the needs of business and publicize the fact.

On a fog-shrouded bank of the Mississippi River not long ago, the stepped-up power of an electric substation suddenly bypassed the insulators. In a few seconds of crackling, arcing violence, the substation was knocked out.

The cause, established by private meteorologists, was the weather—not the wild force of wind or hail or flood but the combination of ordinary prevailing winds and the physical-chemical phenomenon of ionization. Easterly winds had picked up sulphur dioxide from the stacks of the main steam power plant nearby. Carried over the substation, the sulphur dioxide ionized drops in the fog to produce a conductor that let the high voltage get around the insulators.

Iowa-Illinois Gas & Electric Co., owner of the system, was eventually forced to enclose the substation at considerable expense. But it consulted Weather Corp. of America, private meteorologists, and is picking new substation sites with three requirements high on its list: freedom from low fog and drizzle, infrequency of unfavorable winds, high rate of smoke dispersion.

• **Growing Business**—The Iowa-Illinois Electric story illustrates a fact that will be getting more and more publicity in coming months. Private consultants and company-employed weathermen are saving money for businessmen. Mostly since the war, commercial meteorology has grown to 600 weather experts on company payrolls as well as 27 independent consultant firms. Industry and agriculture are paying $15-million a year, according to current sales figures of the consultants, to save itself an estimated $200-million.

In its newness and rapid growth, the business of selling advice about climate and weather finds itself at a point where it needs to be better organized, where its further potential cannot be fully developed without closer cooperation both with its clients and among its own practitioners.

First steps in this direction were taken last week, when the American Meteorological Society ran the First National Conference and Workshop on Applied Meteorology, for weathermen and businessmen, at the Hotel Statler in Hartford, Conn. The theme: "the mutual problems of businessmen and meteorologists."

• **Far More to Come**—With the data and experience already available to the 27 consulting companies and the 600 industry-employed meteorologists, the profession could save farmers and businessmen $450-million a year instead of $200-million, speakers assured the Hartford conference.

Before this could happen, however, the industry agrees it must fill two needs:

• The profession itself must be better organized. Standards must be set up and professional practices and ethics reviewed.

• The meteorologists must be able to acquaint businessmen with the kind of service they offer.

I. Spreading the Word

More and more businesses, including such last-word ones as nuclear power plants, are using meteorology services. Weathermen see no dearth of customers in their future. As Thomas F. Malone, director of research for Travelers Insurance Co., said in the closing statement at the Hartford conference: "I am frankly bullish about the prospects for applied meteorology."

Yet Malone himself was the proponent of an American Institute for Applied Meteorological Research as an essential in improving the industry's own knowledge and in selling businessmen on using it.

• **Varying Needs**—Iowa-Illinois Electric's problem was special if not unique. It required a particular kind of weather analysis. Yet that itself is typical of commercial meteorology and its uses—the diverse weather-study needs of customers are nearly as numerous as the number of customers. In other words, nearly all of them need the same kind of custom-built analysis as Iowa-Illinois Electric did.

This is no drawback to the commercial weathermen. It's no trick for them to apply their knowledge to special cases. In fact, the diversity of problems where meteorology can help businessmen is the reason for the great upsurge in private weather forecasting.

But the weather consultant cannot generalize about what he can do for the businessman. And, by the same token, many a businessman with a problem that a meteorologist could solve doesn't even realize he has the problem.

Thus, the industrial meteorologist can't even begin to sell his service until he can pinpoint an area, unknown even to his prospective client, where he can offer usable advice.

• **Man of Many Roles**—As a result, the private weatherman finds himself playing too many roles to be comfortable about it: educator or publicist, salesman, businessman, and meteorologist. Unless he's able to employ a staff, he must play all these parts himself, and some of them he doesn't enjoy.

Loren W. Crow, a Denver consultant, says: "I have no trouble seeing executives, but only because they're intrigued by the question, 'what does a weatherman want with me?'" Once he gets through the door, though, Crow says he can often sell his "climatological probability service," a term more and more weathermen are using because it suggests the odds on rain, snow, sun, or temperature.

Speaking at the Hartford meeting last week Under Secy. Louis S. Rothschild of the Commerce Dept. said businessmen simply aren't fully aware of how the professional weatherman can fit into their company operations. But he expressed optimism about the future.

"As knowledge of the successful partnerships between businessmen and weathermen becomes better known," he said, "it can be expected that more and more members of industry will seek out those applications of weather information that can also be used in their companies to increase profits or to reduce losses."

II. What They Can Do

"People often ask us what we do for our clients," says Pres. William J. Hartnett of Weather Corp. of America,

"But, Doctor...he's not himself any more"

"Doctor, I don't know what's come over Tom. He has always been happy . . . considerate of me and everybody else. But for months now, he has been changing. He broods a lot, his temper's quick and he is always complaining about his health. I can not get him to see you or any other doctor. Claims his trouble will eventually wear off."

Doctors hear of many situations like this, and they know that medical advice in such cases is often essential. When disturbing feelings persist . . . when a person is so worried, anxious or depressed that he does not seem like himself any more . . . the source of the trouble must be sought.

Doctors have become increasingly aware of the effect of the emotions on physical health. There is no longer any doubt that illness of emotional origin is just as real as appendicitis or pneumonia or any other physical ailment.

In fact, studies made by the National Association for Mental Health show that almost 50 percent of all people seeking medical attention today suffer from conditions brought about or made worse by emotional factors.

A visit or two with the doctor may reveal the underlying cause of the physical disturbance. This is frequently something that the patient does not even suspect.

Once the source of the trouble is found . . . and the patient understands how his emotional reactions are playing havoc with his health . . . a successful recovery can usually be anticipated.

So, if you find yourself . . . or any member of your family . . . becoming persistently over-wrought, irritable, exhausted or unduly nervous, seek your doctor's help . . . and the sooner the better.

For an emotional disorder, like a physical illness, can be treated with greater hope of success when therapy is started promptly.

A simple discussion of how our emotions cause headaches, digestive upsets, and affect our outlook on life is presented in Metropolitan's new booklet called "Emotions and Physical Health." Use the coupon below for your free copy.

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CONVEYORS . . LOADERS . . DITCHERS . . ASPHALT PAVING EQUIPMENT

the New York company that tackled the Iowa-Illinois Electric case. He admits he can't answer the question in the same general way in which it is asked. Instead, he has to pull out the company's brochure and point to a long list of varied case histories.

Weather Corp. enters each new job with a weather engineering study, at no cost to the prospective client, followed up by detailed and specific study that results in a blueprint for custom-tailored service in weather forecasting, weather engineering (such as choice of plant site), or weather modification (such as cloud-seeding to produce or divert precipitation).

One such blueprint went, for example, to a manufacturer of air conditioners, who compensated his dealers for unsold stock during cold weather. Hartnett's staff worked out the temperature at which the payments would start.

• **Storm Warnings**—Even forecasting, the commercial weatherman's most widely known service, is tailored to the particular needs of clients.

In shipping, weather warnings often determine the schedule of loading and unloading vessels, so as to avoid paying stevedores for idle time when high winds or rough water might expose cargo to damage. Other ship operators may be interested especially in "least time" or "least moisture" routes for their freighters. The commercial meterologist will even select the smoothest-water route for a ship that's top-heavy with deck cargo.

• **New Institute**—This very variety of services makes it harder for the weatherman to master the problems of business and to convince a potential customer that he can be of service. That's why the research institute was proposed at Hartford last week.

Supported by industry and foundations, the institute would be headed by a board of trustees representing industry, universities, and professional societies, such as the American Meteorological Society.

"Such an organization," says Malone, "might well be the catalyst for the kind of cooperative effort that will be able to take this problem of real economic importance, bring it to competent people and a rational approach, and really develop the potential of this field of applied science."

To help meteorologists along their commercial way, Under Secy. of Commerce Rothschild promised that the Commerce Dept.'s Weather Bureau, from which all meteorologists get accumulated weather data, would expand its storm detection radar and similar services.

Rothschild also hit on a second concern of the Hartford meeting when he warned weathermen against issuing "de-

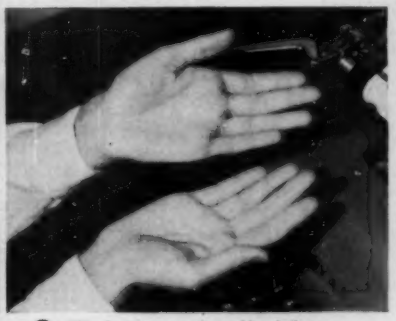
1 "My hands used to look like this every time I typed a duplicating master."

2 "Then one day the boss asked me to try Azograph . . . said he wanted to see if these new masters really were clean. So what, I thought."

3 "I typed the master the same way I always did."

4 "I made corrections the same way and expected the same mess."

5 "BUT WAS I SURPRISED!"



6 "My hands were clean. My clothes were clean. My desk was clean. No smudge, no smear, no stain."

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tailed weather forecasts extending into the future longer than normally justified by existing meteorological knowledge and present forecasting skills."

III. Standards and Ethics

His warning hit home, for detailed weather forecasting for advanced periods is a major bone of contention among meteorologists themselves. It brought out the need for standards of practice.

Most experts agree that forecasts covering long-range periods are often wrong and at best unreliable. In fact, reliability beyond 24 hours sinks rapidly. Yet, in the struggle for satisfied clients, some weathermen are selling such forecasts. Ironically, the long-odds forecasters are often right. Their critics say it's luck; the forecasters say it's skill.

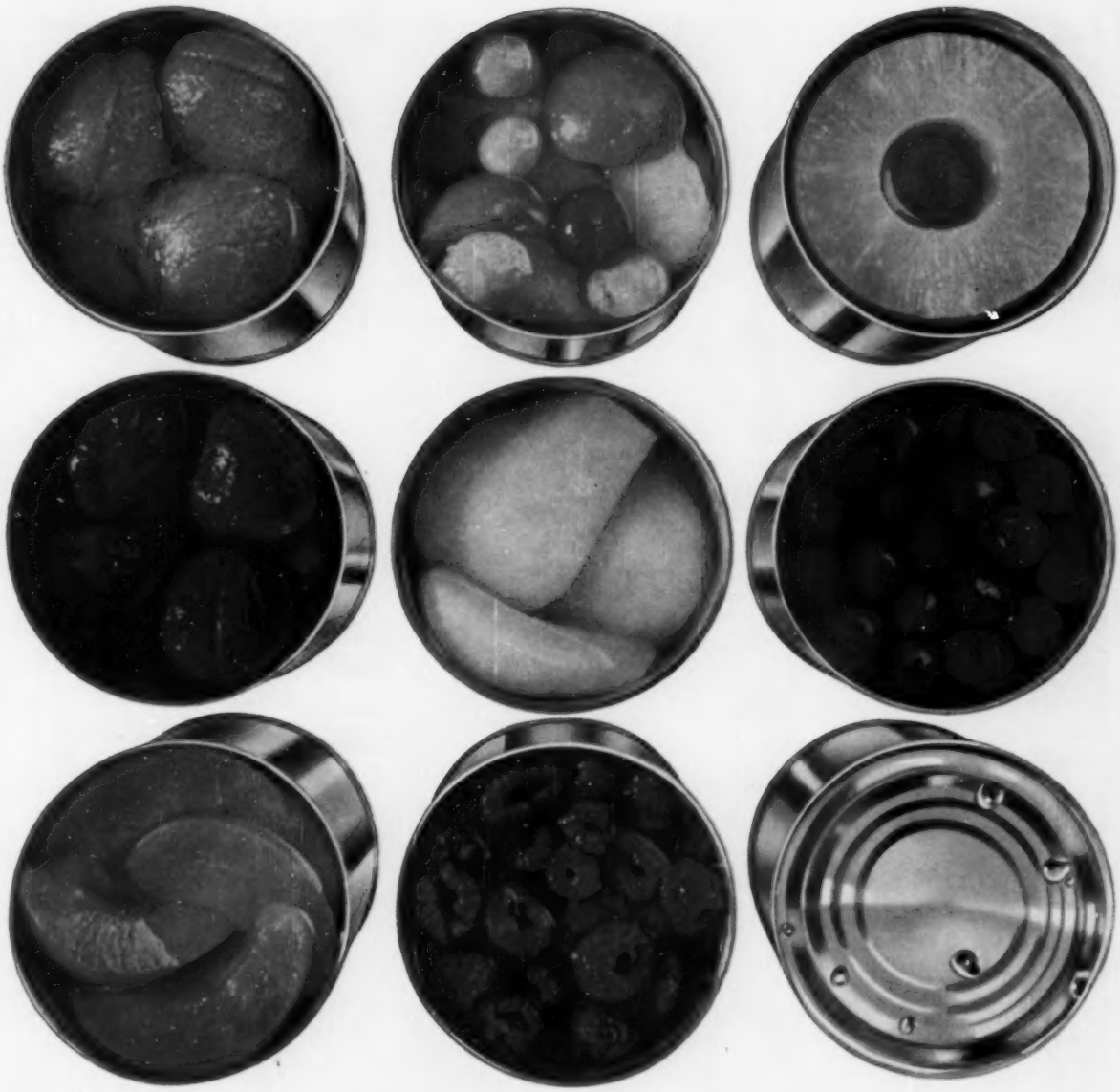
• **Bad Practices**—The American Meteorological Society charges that some consultants who sell weather forecasting as a service are clearly unqualified, that some make unwarranted claims, and that others have stolen clients by underbidding.

Although technique in forecasting was once the yardstick for measuring the capability of a weatherman, this is no longer enough, says AMS. For example, finding a site for a nuclear power plant involves determining such things as how well the atmosphere over the site will disperse waste. Attempting to modify the weather by cloud-seeding also demands more than mere forecasting ability.

• **Certification**—To help head off the threat of sharp practices, an AMS committee is recommending formation of a board to certify consulting meterologists.

To earn such a certificate, a meterologist would have to demonstrate qualifications in three ways: knowledge, experience, and character. Most of the country's meteorologists are members of AMS, so the society's seal would mean something to them.

In the beginning of any certifying program it inaugurates, AMS is expected to use "discretion" in lowering the boom on nonconformists, for the profession has been built on nonconforming initiative. The AMS statement of intent says merely: "The general nature of our problem is one shared with engineering, law, medicine, architecture, accounting. We wish to insure that the professional service is performed in a manner consistent with the highest standards of competence, dignity, integrity of honor. To do this is to safeguard the client who wishes to avail himself of competent advice. This will also safeguard the meteorologist, his reputation, authority, success." **END**



How Wheeling Steel helped tame the rebel fruit

Ummm, peaches. Ahhh, plums. We almost take these canned delicacies for granted. But it wasn't always so.

For most fruit contains a certain amount of acid. And mild though it is, the acid still played havoc with canning materials some years ago.

Then along came Wheeling Steel with a remarkable development – Ductillite tin plate.

Equally important, Wheeling developed new quality control measures which examine for imperfections as microscopic as 1/10,000 of an inch. Now, through the ingenuity of the nation's can makers and packers, almost everything is readily available in cans – *Ductillite* cans.

It's a far cry from Wheeling's humble beginning some 105 years ago to the bustling, thriving enterprise of today. But the same pioneering spirit prevails–exploring new and better ways and products.

The nation is growing and Wheeling Steel is growing with it. Bigger? Yes. But more important . . . better.

Wheeling Steel Corporation, Wheeling, West Virginia.

IT'S WHEELING STEEL

THESE MODERN GOLIATHS GIVE THE RAILROADS MORE "GO"... You're looking at more than a million dollars' worth of streamlined power—sleek, tireless, highly efficient locomotives that help the railroads serve you better.

More Railroad Progress like this depends on adequate earnings

Isn't this common sense?

In a few years, the railroads have changed over almost completely to economical Diesel power. And other advances in motive power are already on the way – advances as important to America as to the railroads.

But the money for new locomotives – and all improvements in railroad service – must be supplied by the self-sustaining railroads from their own earnings. And railroads just aren't earning enough money these days to put into operation all the improvements they have developed, as fast as they would like.

Railroads *could* make enough money to do more of these things, for they are – by far – our most efficient system of mass transportation. But their earning power is hamstrung by outdated public policies that favor competing forms of transportation.

As a result, the railroads' earnings are reduced – and the nation loses some of the benefits of railroad progress.

In your interest – in the interest of *every* American family – railroads should be permitted *equal* opportunity to earn an adequate return on their investment. ***Isn't this common sense?***

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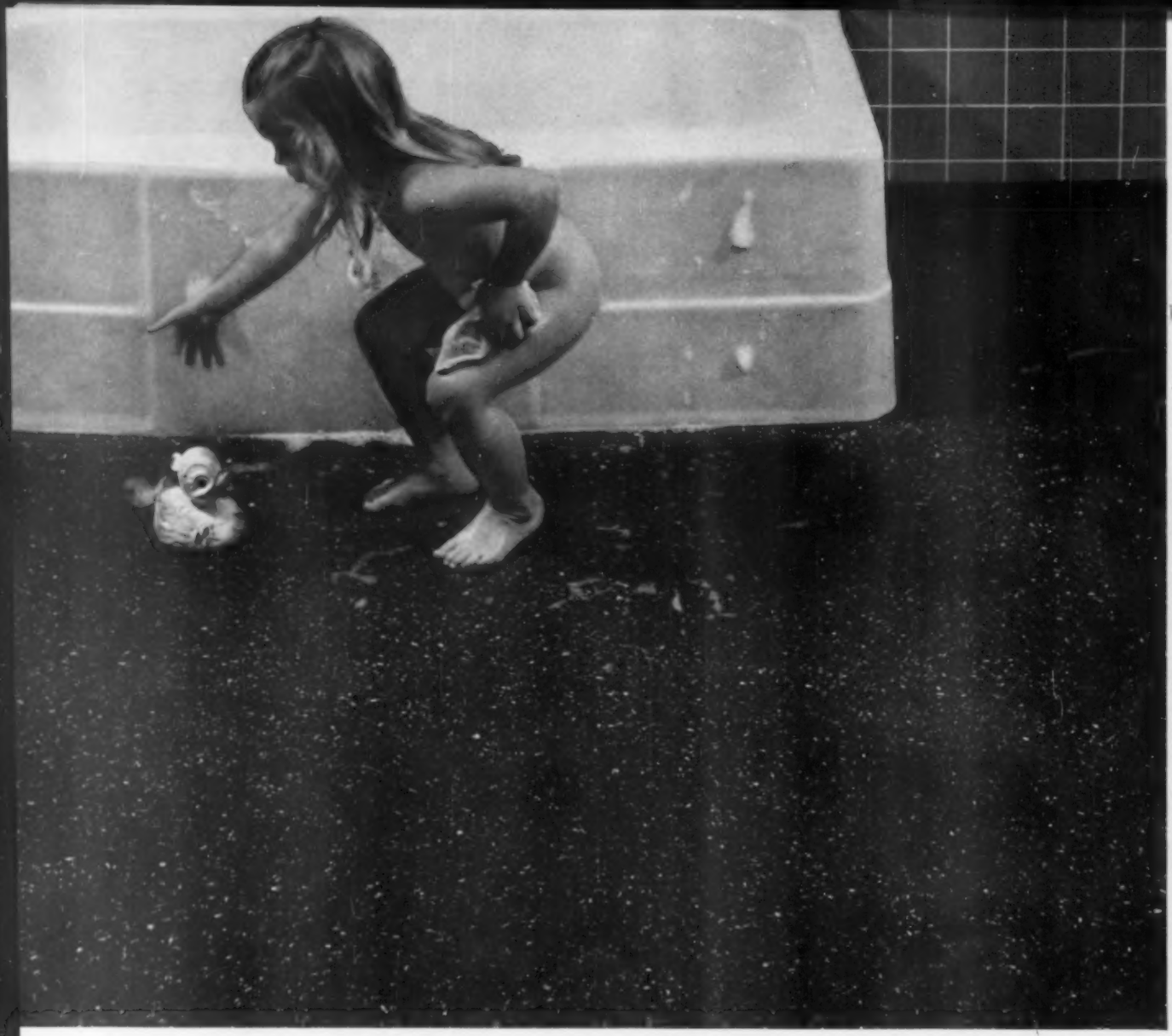
ASSOCIATION OF AMERICAN RAILROADS, WASHINGTON, D. C.

YOUR BASIC TRANSPORTATION



Flooring above is Robbins' "Terratile" vinyl, manufactured by Robbins Floor Products, Inc.

Bare Essentials for the Ultimate Test of Flooring

As every parent suspects, research laboratories have yet to devise a test that can dish out punishment with as much enthusiasm and ingenuity as one small child. Here vinyl flooring is passing the nightly drenching with hot soapy water. Net effect — zero. That's why today's parents take to vinyl flooring.

Vinyl is one of the most versatile of materials, combining all the properties a good floor must have: beauty, long life, easy cleaning, plus resistance to acids and greases that ruin ordinary floors. And colors stay fresh . . . won't fade or wear away.

DIAMOND doesn't make flooring. We are a major producer of the plastics that leading manufacturers use to make vinyl flooring and many other modern products that make today's living easier and more enjoyable.

For information on DIAMOND plastics and the other "Chemicals you live by," write DIAMOND ALKALI COMPANY, Union Commerce Bldg., Cleveland 14, Ohio.

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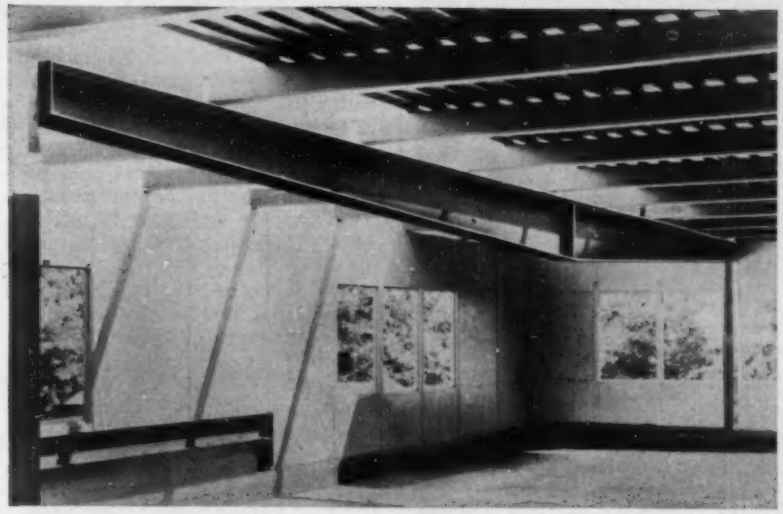

SLOPE BEAM of light fabricated sheet steel gains favor with architects as a . . .

Support for Low-Slung Roofs

Split-level and ranch houses can be more sturdily yet reasonably constructed with the new steel beam shown in the picture. Here it's being used to support a flat roof, but by turning it over it can support a low-profile peaked roof.

The beams are made of sheet steel fabricated by a continuous welding process that makes the steel lighter yet just as strong as rolled milled sections usually used in heavy construction such as bridges and office buildings. Since steel is sold by the ton and construction costs are greatly affected by its weight, the new sheet steel beams are expected to cut steel construction costs as much as 30%. This brings construction costs into line with ordinary wooden beam construction.

Unlike wooden beams and rolled milled steel beams, which are manufactured in standard lengths, this beam is custom-made in any length between 20 and 65 ft., including fractions of an inch. This gives the architect greater design freedom without adding to material costs, because there's no waste. And the beams can be used with wood, concrete, cement block, masonry, and other standard building materials. Maintenance costs for fire-resistant steel are low because it's easily cleaned and painted and can't be attacked by rot or vermin, a problem with wood.

The manufacturer, Steelcraft Mfg. Co., Cincinnati, is shooting for the small- and medium-size construction market, and is talking about using the beams for schools, warehouses, supermarkets, and multistory buildings.

Plastic Coat for Papers

Protecting business and personal papers from moisture, smudges, and wear is a common problem—one for which it has been hard to find an economical solution. Transparent slip-on covers are fine for smudges and wear, but don't keep out moisture. Laminating machines have provided a cover that keeps out moisture, but tends to be heavy. Besides, the process has been too expensive to use except on papers that get very heavy use, such as automobile registrations.

The Ply-on laminating machine in the picture is the answer to all this, according to American Photocopy Equipment Co., of Chicago. The machine can coat one or both sides of a

TRU-LAY
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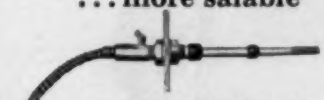
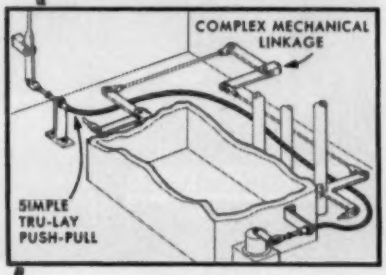
make hundreds of products more useful . . . more salable



The DATA FILE offered below shows how the Precision Construction of these PUSH-PULLS provides sustained accuracy, lifetime service and improved operating characteristics for literally hundreds of products (ranging from relatively delicate photographic equipment to the roughest and toughest dirt-moving equipment) to make them more useful . . . more salable.

Here is a picture of SIMPLICITY vs COMPLEXITY



Tru-Lay Push-Pulls are Simple . . . have One Moving Part . . . provide Lifetime Service, Lifetime Accuracy, Low-Over-All Cost and they are Noiseless. *We have never heard of a Tru-Lay Flexible Push-Pull wearing out in normal service.*

Mechanical Linkages, as shown dotted in the drawing, are Complex, have Many Parts, Many Points of Wear to create Increasing Back-Lash with Loss of Accuracy and Multiple Vibration Rattles.

The six bulletins and booklets in the DATA FILE *provide a clear picture of how the Flexibility of Tru-Lay Push-Pull Remote Controls simplifies Design and Assembly . . . cuts costs for Engineering and Production.*

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paper with thin, pliable sheets of transparent cellulose triacetate plastic. The maker says the coating is impervious to moisture, doesn't cloud up with age, and resists most liquids and solvents. It costs an estimated 5¢ to laminate both sides of an 8½-by-11 in. sheet, and 2¢ to laminate one side.

All you do is insert the edge of a sheet of paper in the slot, and push the starting button or foot pedal. A roller feeds the sheet into the machine, where it is laminated and fed out again in about 10 seconds. The machine weighs 30 lb. and can be operated on a desk top; it uses ordinary electric current. It's loaded with two 1,000-ft. rolls, one for each side. It can coat papers up to 11 in. wide, and of any length up to the 1,000-ft. limit. Cost: $275.

NEW PRODUCTS BRIEFS

An industrial vacuum sweeper that is said to pick up particles of dust 1/5000 in. in diameter, and that is designed to clear plant floors and salvage valuable chemical and metallic dusts, has been built by G. H. Tennant Co. of Minneapolis. Operating at speeds up to 15 mph., the sweeper clears an 88-in. wide path with its twin brooms, which suck the dirt up into their vacuum housings and deposit it in a 1¾-yd. hopper. It costs $9,000.

•

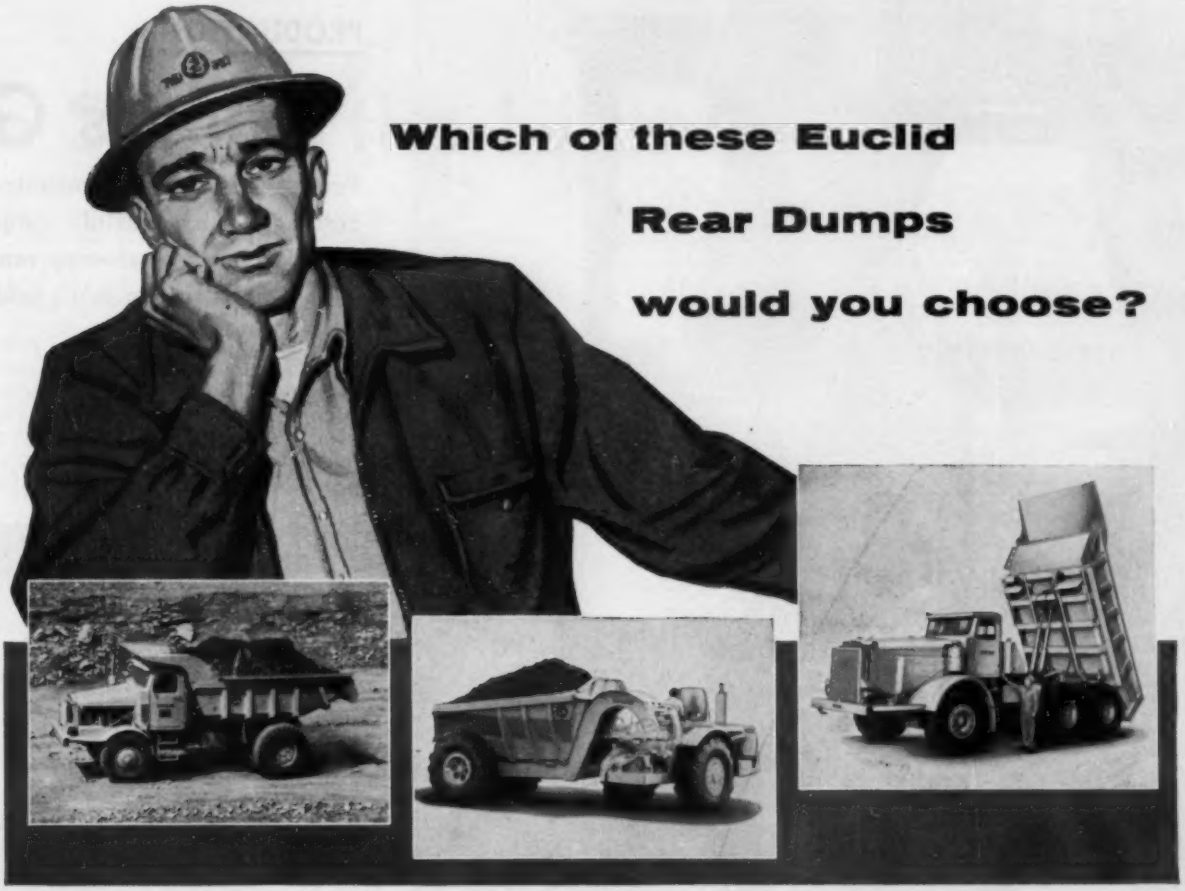
A tiny photoflash bulb that provides a flash as bright as conventional models four times its size is being marketed by Sylvania Electric Products, Inc. The brightness comes from using shredded zirconium foil as the combustible element instead of the standard shredded aluminum. The M-25 sells for 14¢ and the slightly brighter M-25B, 17¢.

•

A freight car scale that weighs the cars without them being stopped, switched, or uncoupled has been developed by International Weighing Corp. of Indianapolis. Key to the system, called Railweight, is a set of specially designed rails that prevents any weight being transferred from one car to another as the result of forward momentum. The scale eliminates down time resulting from stopping and weighing each car, then rehooking it to the train.

•

A braille duplicating machine that makes fast and inexpensive copies of braille type set in the machine by hand has been announced by Addressograph-Multigraph Corp., Cleveland. The machine will make it possible for teachers to duplicate teaching assignments, texts, and examinations in braille, something that couldn't be done before because of the time and expense involved.



Which of these Euclid Rear Dumps would you choose?

Suppose you were a road contractor... a mine operator... or a quarry owner...

And suppose, further, that you needed hauling equipment to move a half million tons or so of heavy excavation at the lowest cost. What type would you select—single or tandem drive axle, or semi-trailer? What capacity, from 10 to 50 tons payload?

When you have a decision like that to make, you don't just take your choice or ride a hunch. Not if you want to make money and keep your costs low as possible, you don't. You study the job—size and type of loading unit, grades, length of haul, production required, method of dumping and other factors before you even begin to consider your equipment requirements.

One of the reasons why Euclid Rear-Dumps have been the outstanding choice for years on off-highway hauling is the complete range of capacities and power that fits any job. There's no need to compromise on equipment that's too small or too big, under-powered or over-powered, or simply just the wrong tool for the job. Euclid dealers render important service, too, by providing technical assistance to users of heavy earthmoving equipment. They compile production and cost estimates that help you determine the proper model application—maintain parts and service facilities that keep "Eucs" working at peak efficiency.

Engineered to fit the job . . . Euclids are your best investment.

GM GENERAL MOTORS EUCLID

EUCLID DIVISION

GENERAL MOTORS CORPORATION

Cleveland 17, Ohio

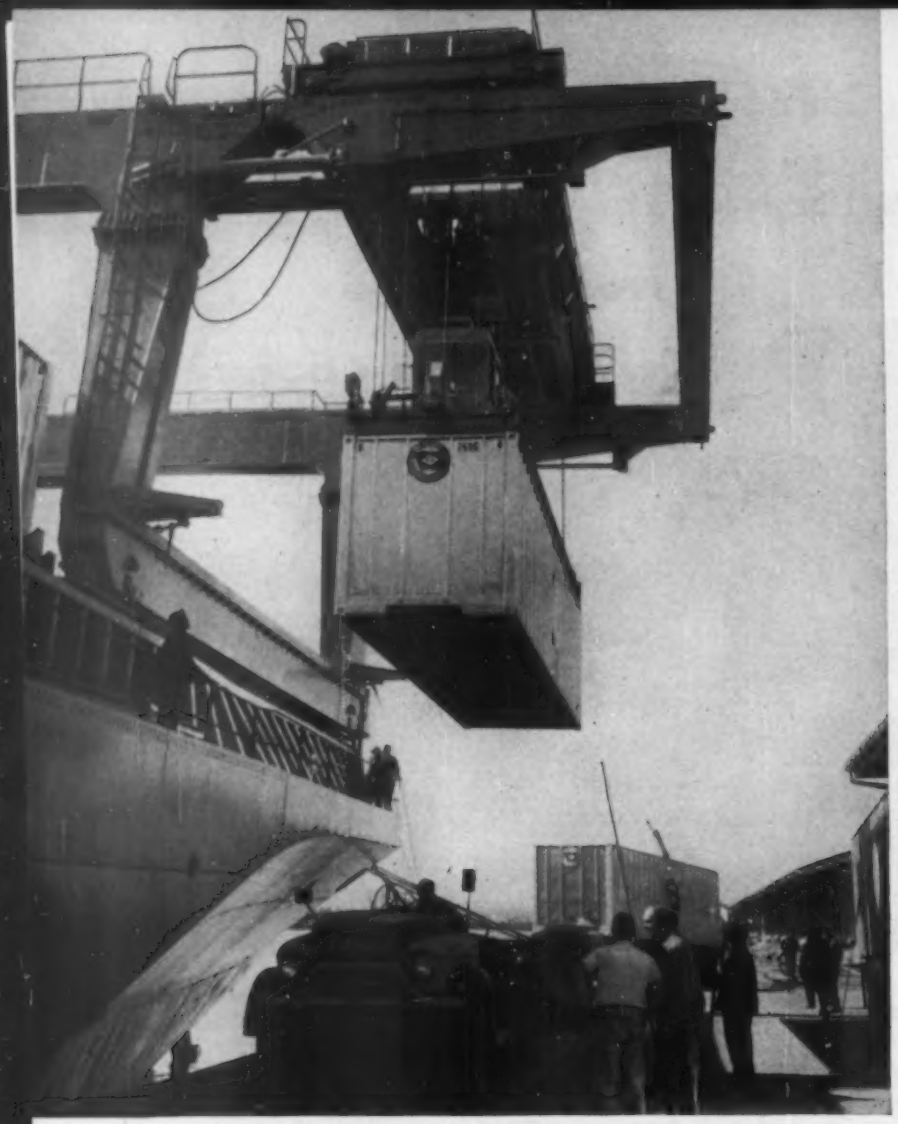
Pioneer in off-highway earthmoving equipment

PRODUCTION

Trailers Go

Pan Atlantic's deck-mounted cranes slash coastal cargo handling costs by stowing vans —minus chassis—in ship's hold.

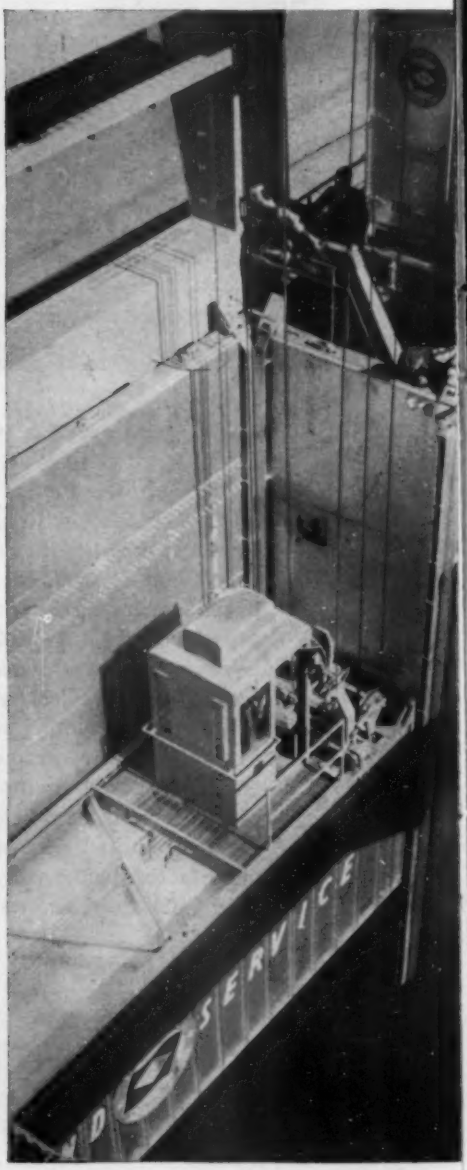
The costs of handling cargo are gnawing away at ocean shipping in many of the world's ports, taking the biggest bites wherever there are competing forms of transportation. Thus the U. S. coastal lines operating between the East Coast and the Gulf have been hard hit.



TRAVELING CRANES, two to a ship, thrust huge arms out over the dockside to lift a 25-ton loaded trailer box off its chassis. Round trip takes 5 minutes.

CRANE OPERATOR "rides the hook" in a special control box that rests right on the trailer, thus getting a better feel of the load for precise stowage.

SLOTS IN THE HOLD guide trailer boxes to position, where they are stowed one atop the other, as tidily space-saving as a pile of crates.



to Sea By the Lift-on Way

Before the war, 11 lines were plying these routes; today, only two survive:

Seatrain Lines, which is prospering happily through radical new cargo methods adopted 25 years ago. Seatrain hoists loaded freight cars directly onto specially designed ships, and off again at the port of destination. With handling cut to almost nothing, Seatrain grossed more than $12-million in 1955, close to a third of the whole business in its field. And that big share was achieved by moving only 1-million tons, out of an industry total of 14-million tons, for Seatrain scored heavily in the desirable, high-rate small-bulk cargo.

Pan Atlantic Steamship Corp., which is just now shifting to a new concept of hoisting truck trailers directly onto specially converted ships (pictures). In the past, Pan Atlantic had stuck doggedly but not very successfully to conventional methods. But now the line—a subsidiary of McLean Industries, hence kissing kin of a trucking empire—is operating two converted hoist on-hoist off ships, and has four more being altered for the trade.

First figures on the Pan Atlantic innovation have the waterfront gaping. It's reported the ships can load cargo for a record low of 20¢ a ton, compared to the $4-$5 that it costs to handle neatly palletized cargo by the familiar ships booms.

• **Other Systems**—Outside the East Coast-Gulf trade, quite a few lines, too, have toyed with the idea of making the trailer the basic shipping container, somehow rolling it abroad, hoisting it aboard, or combining piggyback trailer methods with that of trainships. Among

PAN ATLANTIC SHIP, specially converted, puts out with deckload of trailer boxes supplementing packed holds. Crane arms are retracted at sea.

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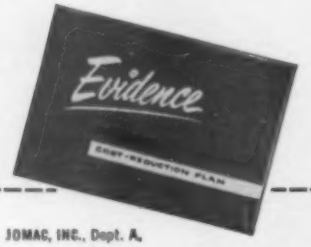

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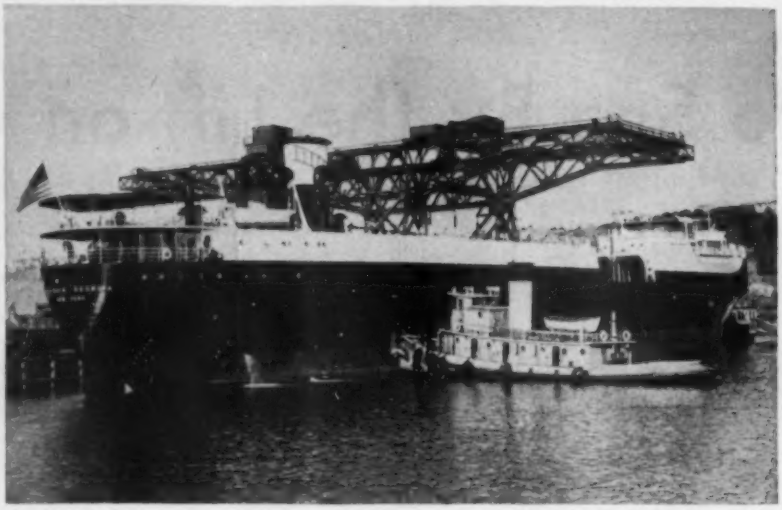

LIFT-ON, LIFT-OFF was pioneered by Seatrain, 25 years ago, using loaded freight cars, which are stowed aboard special ships by 125-ton dockside cranes.

the lines thinking of this approach to faster dockside cargo handling are: Alaska Steamship, Pacific Trailership, American Liberty Corp., Blackball Transport, Inc., and Bridgeport & Port Jefferson Steamship Co. Just recently, Hudson River Trailerships, Inc., announced plans to run trailer carrying ships between New York and Albany.

Right now, apart from Pan Atlantic's two new ships, the only major trailer carrying ship that has operated is TMT Trailer Ferry's Carib Queen. This 92-trailer ship—relatively small as such things are projected—started like a house afire (BW—Jan.26'57,p30), but has since been tied up in port because of engine breakdowns and related difficulties.

The development of other ships has been hamstrung by high costs of shipbuilding. Just last week, American Hawaiian Steamship canceled plans for a fleet of eight $20-million trailer ships that were to run a fast service between the East and West Coasts, via the Panama Canal. Cost or no, the shipping industry is so keenly interested in this type of vessel and more of them are sure to appear.

• **Success at the Start**—Seatrain got the trend started when it demonstrated that it could use the freight car as a basic ocean-going container, hoisting loaded boxcars aboard and sailing them to their destination. Success came quickly, as the boxcars were delivered almost as fast as by rail, at the cheaper water freight rates, and on regular schedule.

The line now has six 500-ft. four-deckers, each of which can carry 100 freight cars. The vessels are named after the areas or ports they serve: Georgia, Savannah, New York, New Jersey, Louisiana, and Texas.

The ships can be completely loaded in only six hours, with a single 22-man longshore crew. This speed and low wage bill, plus reduced claims for loss and damage, enables Seatrain to show a nice profit despite its need for specialized terminals with mammoth 125-ton loading cranes.

• **Seamobile**—Seatrain is not resting on its laurels. Last month, before a Houston audience, it demonstrated a piggyback trailer operation, called Seamobile. In this experimental system, 27-ft. trailers are loaded on flatcars, which in turn are hoisted onto the ships. Seatrain hopes to have Seamobile in operation next year, neatly combining the reduced handling costs of piggyback with the low costs of water transportation.

I. Roll-on, Roll-Off

The idea of ships that could carry loaded trailers really caught on during World War II when endless streams of loaded trucks and tanks ready for action rumbled down the ramps of the landing craft onto farflung, embattled beaches.

Adapted for commercial cargo handling, the favorite idea up till recently was the roll-on, roll-off trailer ship—in effect, a seagoing garage. The trailers would be driven aboard at one port, and driven off again at another. One such vessel, the $11.2-million Comet, is being built for the Military Sea Transportation Service by Sun Shipbuilding & Drydock. Trailers and military vehicles will load on and off via a ramp at the stern and through side ports. Inside the ship, they will move from deck to deck by ramps.

• **Complications**—Commercial shippers, though, are reluctantly succumbing to

The arithmetic of economics and an enlightened reforestation program

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Kenneth C. Towe, president of American Cyanamid, spells out the 'arithmetic' that guided his realistic engineers in locating the new flakeboard plant of Cyanamid's Formica Division — Cyanamid's third expansion in North Carolina:

"Governmental Climate" cited by K. C. Towe (left), President of American Cyanamid, is demonstrated in discussions with North Carolina's businessman Governor Luther H. Hodges (holding piece of flakeboard). "Governor Hodges talks our language," say industrial leaders.

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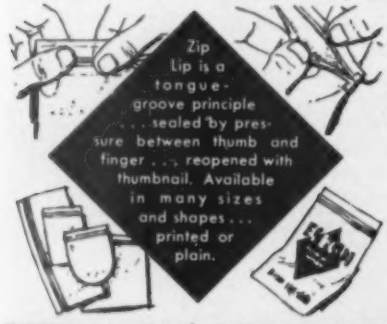
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ROLL-ON, ROLL-OFF, with ramps for moving trailers in the holds, makes TMT's Carib Queen a sort of sea-going garage. First tests were fine, then came trouble.

doubts that just plain driving the trailers aboard will be their dish of tea. Apparently, its not that simple. Special terminals have to be developed, frequently with gentle-slope ramps. The wheels and undercarriages of the trailers use up valuable cargo space. Plans for trailerships are increasingly calling for built-in tracks and conveyors. The now beached Carib Queen was supposed to get such a system, so were the blueprinted sextet of vessels called off by American-Hawaiian Steamship.

There is wide dispute on what is the ideal size for a trailership. American Hawaiian—controlled by shipping tycoon Daniel K. Ludwig (BW—Mar. 16'57,p105)—was thinking big, with 500-trailer ships. Pacific Trailership leans to 300-trailer jobs for a proposed Los Angeles-San Francisco run, while Eric Rath, president of TMT, opines that 200 trailers would make the most sense.

II. Lift-on, Lift-Off

Pan Atlantic has gotten completely away from the roll-on, roll-off system. Its ships carry deck-mounted 25-ton traveling cranes, which pluck detachable trailer bodies off the chassis and deposit them in the holds like neat rows of boxes. Each ship can carry 226 trailer bodies.

The system, smooth and ingenious, is keyed to the huge traveling cranes, one mounted forward of the bridge, the other aft, with arms that can extend beyond the ship's side and over the loading dock. A crane can load and unload a trailer body in just five minutes.

Pan Atlantic's two completed ships began operating between New York and Houston in the past fortnight. A round trip, with stops at Miami and Tampa, is expected to take two weeks. More routes are to be added when McLean's own shipyard at Mobile completes the conversion of the other four ships by the end of this year.

• **Equipment**—Pan Atlantic's operation requires a lot more than just the specialized ships. The company has 4,500 special 35-ft. trailer bodies, 2,500 quick release chassis. Close to 300 truck tractors will be needed to move this rolling stock from the company's terminals to the dockside. Deals have been lined up with between 300 and 350 outside truckers to move the trailers from shipper to terminal, and from terminal to destination.

No matter how efficiently this integrated system works, it will be a day or two slower than over-the-road transportation. To balance this, it will be able to charge between 5% and 25% less for the haul, depending on the type of cargo.

• **The Saving**—The huge saving in cargo handling cost is Pan Atlantic's ace in the hole. The cranes of one of its ships can completely unload and reload a full cargo in eight to 10 hours, with only two 15-man longshore crews working a bit longer than one shift. For comparison, it takes as many as five gangs a week or more just to load a conventional ship.

There are other advantages, too: reduced claims for loss and damage, faster turnarounds; no need for extensive dockside terminals.

Pan Atlantic's boss, J. K. McLean, figures the six-ship fleet should gross $30-million a year, which is almost as much as the entire East Coast-Gulf shipping industry grosses now. The ships that will do this are 15½-knot, 10,500-ton merchantmen converted at

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a cost of about $3.5-million apiece. Most of the money went into widening the ships and installing full-width hatches. An added starter was three 450 KVA generators that can provide power for 60 refrigerated trailers.

Atlantic did not plunge blindly into trailerships. For trial runs, it tried deckloads of 60 trailers on four T-2 tankers that it operated in the Texas-East Coast oil trade, too. But as converted ships come into operation, the tankers will be released.

• **Deck Cargo Approach**—Some shipping lines have liked the idea of carrying trailers, but were loath to sacrifice the traditional flexibility of merchant ships. So they have compromised, using steel containers whenever possible for hold storage, and adding a deck load of trailers. Alaska Steamship was a pioneer in this approach. A newcomer to the system is Borinquen Steamship Co., the recently formed Puerto Rican line that is backed by Ryder Systems, Inc., Southeastern trucking giant.

PRODUCTION BRIEFS

Production of beryllium—a strong, light metal that's highly resistant to heat—will be boosted by opening next week of Brush Beryllium Co.'s $4.5-million plant in Ardmore, Ohio. With monthly capacity of 20,000 lb. of beryllium in hydroxide form and 10,000 lb. of vacuum-cast beryllium metal, it will rank as the largest privately financed beryllium facility in the U.S.

•

Stress corrosion cracking—a failing of stainless steel and other high-alloy parts under certain conditions—may result from a type of chromium crystal growth discovered by metallurgists at Westinghouse. The chromium oxide crystal apparently can start microscopic cracks that ultimately lead to failure. Westinghouse hopes the discovery will lead to development of a way to stop the damaging process.

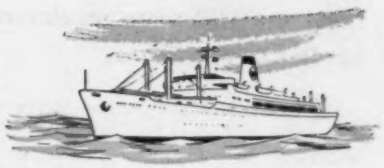
•

To de-ice a wintry windshield, du Pont's Freon Products Div. has discovered an alcohol-based compound that will melt a ⅛-in. coat of ice in about three minutes. Better yet, if the compound is sprayed on beforehand, it will prevent ice from forming. According to du Pont, the de-icer does no harm to paint finishes or metal trim.

•

A new turbine-type oil drill may have a future in hard-rock drilling, where reduced bit weights help control hole deviation. Announced by Humble Oil & Refining Co., the diamond-tipped drill works at one-third to two-thirds the speed of a conventional rock bit.

HOW *CHIKSAN* HELPS CALM ROUGH SEAS



When Sperry Gyroscope Company developed the Sperry Gyrofin* Ship Stabilizer, their plans called for high pressure hydraulic lines to tilt the stabilizing fins. Flexibility and strength were musts because fins must be tilted fast—in two seconds they must pass through an angle of 35-40°. Chiksan ball-bearing swivel joints provided the answer. These free-turning 360° joints give metal lines the flexibility of rubber, yet deliver burst-proof quality that only steel can provide. This unusual application provides just one example of the problem-solving versatility of Chiksan swivel joints.

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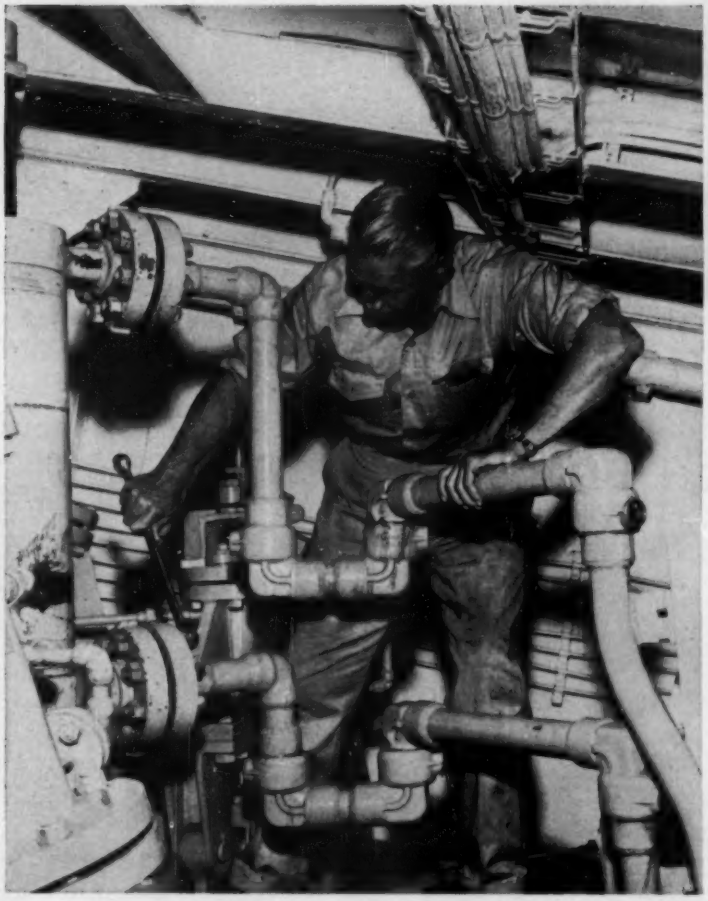
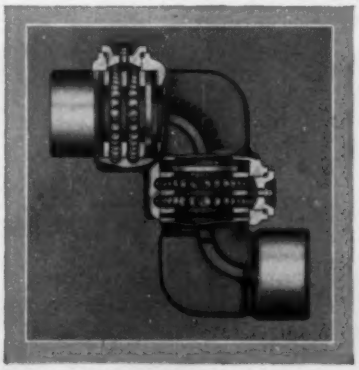
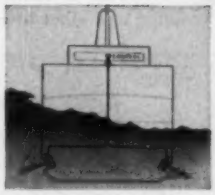


Sperry Gyrofins, incorporating ball-bearing swivel joints in the hydraulic actuating systems, have been in operation aboard the Matson liners Mariposa and Monterey since 1956.





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GYRO-GLIDER for one is Igor Bensen's hottest seller to date. In effect an engineless helicopter, you can buy it standing up or in the kit form that's spread on runway.

Whirlybirds

Bensen Aircraft is aiming at a poor man's aerial flivver—but there are still some regulatory hurdles to get across.

If you've been startled by seeing a boat whiz past your lake front cottage suspended in mid-air by a helicopter rotor, or have seen a car tooting across an open field towing a man suspended kite-fashion by a similar rotor, the chances are just about 100% that Igor Bensen (picture, left) is behind it.

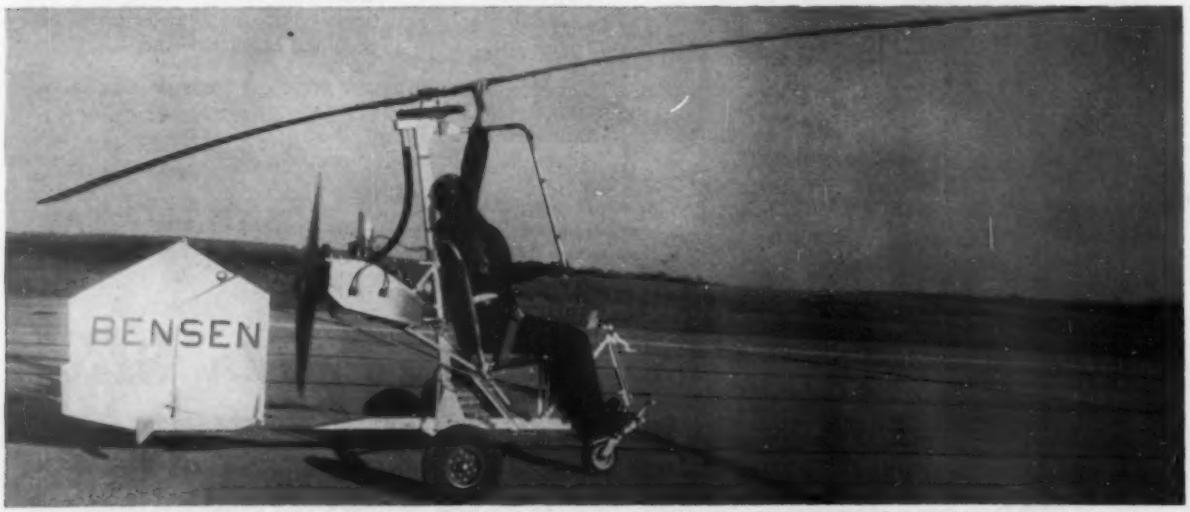
If you've a friend who is building himself a helicopter-like craft in his basement, Bensen is also responsible for that—as he is for the assorted craft you see on these pages.

• **High-Priced Hope**—One-man helicopters, in general, have pumped a lot of excitement back into the whole helicopter business, giving the hemmed-in, road-bound citizen fresh hope that the poor man's flying machine may yet materialize. But most companies in the field, such as Kellett Aircraft Corp., Rotor-Craft Corp., Gyrodyne Co. of America, Inc., Hiller Helicopters, and Goodyear Aircraft Corp., are concentrating on the military market (BW—Apr.20'57,p49).

And even if one of these companies did adapt its midget helicopter for commercial sale, the price would hardly come in the flivver class. Gyrodyne, for example, sees a price tag of $5,000 for its XRON-1 when and if it puts it on the market.

• **Pocketbook Size**—Bensen's Raleigh (N. C.) company has taken the opposite

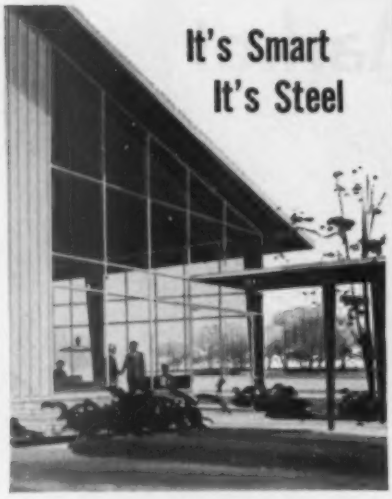
SIMPLE design and easy-to-obtain materials are stressed in all Bensen craft, so do-it-yourselfers can erect and dismantle them with wrenches and other tools at hand.



LATEST Bensen product is 1958-model Gyrocopter—nearest thing to an air flivver since the Wrights. It takes off in about 50 ft.

IN THE AIR, the '58 Gyrocopter cruises along at 60 mph., hovers at about 15 mph., has 120-mile range, can stay up 2½ hours.

Go for Do-It-Yourself Market



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tack. The company has made it its special business to sell to the kite flyer, the water skier, or the model airplane builder who has a hankering to get off the ground and actually fly himself.

From the Bensen Aircraft Corp., an embryo flier can get all manner of fascinating craft. The company will sell you a helicopter-like glider for $695, or the same glider mounted on floats for $895. A boat glider that incorporates Bensen's basic helicopter rotor with a boat hull goes for $895. A motorized glider, with engine controls, fuel system, and pusher prop, but without the engine, can be had for $1,995.

If the customer prefers, he can buy just the plans ($10 to $25), or a variety of do-it-yourself kits ranging in price from $49 to $349.

• **Prize Package**—The headliner in this whole array of machines is the powered Gyrocopter (picture, page 113). Technically, it's really not a full-fledged helicopter, but a cross between an old fashioned autogyro and a helicopter. In this design, the helicopter rotor supports the Gyrocopter in the air, but a pusher-type prop imparts the forward motion.

To the layman, though, its flight characteristics are very similar to that of a true helicopter. It needs only 300 ft. for a take-off, can "hover" at a speed of 15 mph., can land at 7 mph. and come to a stop in 10 ft. to 20 ft. Its cross-country characteristics are equally pleasing. It has a range of 120 miles; it can stay up two and a half hours, climb to 12,500 ft., and hit a top speed of 75 mph.

The 1958 model Gyrocopter goes the old model one better. By adding on a device to get the rotor up to flying speed while the Gyrocopter is standing still, it is possible to get the craft into the air in only 50 ft.

• **Best Seller**—Even though the powered Gyrocopter is the company's only "true" flying machine, Bensen Aircraft's biggest volume is still in its first product—the Gyro-Glider. Last year, over 100 Gyro-Gliders and 700 Gyro-Glider kits were sold. In comparison, only about 100 Gyrocopters, all told, have been sold in the 17 months they have been on the market.

The Gyro-Glider is basically a fairly simple machine—in fact, it's nothing but a glider with a rotating wing. All the later Bensen products are just refinements of this idea, created by adding pontoons, a boat hull, or an engine and prop to the basic rotating wing.

• **Helpful Customers**—Some of these later products grew out of design suggestions from customers, rather than from Bensen's own planning. A case in point is the pontoon-equipped Hydro-Glider. It was developed because a lot of people wrote in to say that airports rather frowned on the Gyro-Glider, but they thought nobody would object if they towed these gliders behind a boat. Adding the motor to turn the Gyro-Glider into a Gyrocopter was also pretty much the result of customer requests.

The demand for all these products continues to accelerate, according to Bensen, the Russian-born engineer, who switched from General Electric to Kaman Aircraft Corp. and then left so he could work out his own helicopter ideas. He says his four-year-old company is now "operating at the rate of a third of a million dollars a year." To meet this demand, Bensen will boost the production of this 25-man factory by the end of the year from two machines a day to four.

• **Customer's Tune**—Design of new models is not the only area where the customers' demands are in control. Manufacturing techniques, and the kind of materials used, are chosen with the customer in mind. Until recently, for instance, the specifications for building the Gyro-Glider air frames called for the use of ordinary water pipe—a material readily available almost everywhere to the do-it-yourself faction. Now aluminum piping is specified.

In all such matters, as a rule, the tools, talents, and mechanical know-how of the man in the basement workshop call the tune.

Biggest departure in Bensen's craft, in an aircraft design sense, is the use of self-locking aircraft bolts instead of welding to hold the airframe's structure together.

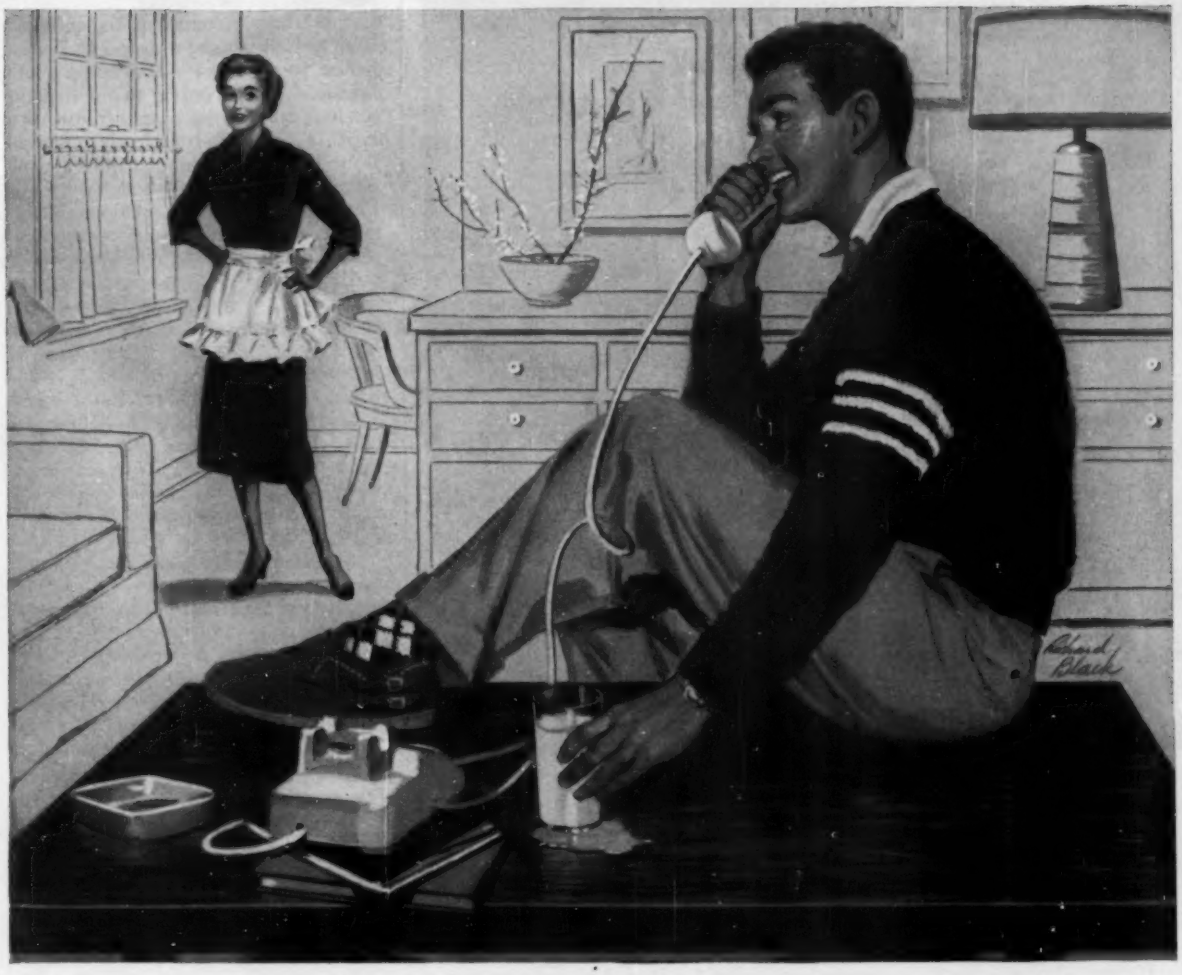
Each of the individual parts of the frame is purposely the simplest design possible. This makes it easy to remove and replace damaged parts in case of a rough landing, without having to ship the whole machine back to the factory for a major rebuilding job. In fact, a man with a couple of wrenches can dismantle his Gyro in 20 minutes at the end of a day's flying, so that it can be loaded into a truck or station wagon.

• **Troubled Dream**—With the latest developments by Bensen and the other manufacturers of small helicopters, too—the dream of the aerial flier seems almost to have come true. But don't forget that it's a 50-year-old dream. In the 1930s, for instance, it seemed to be about to come alive in "backyard," kit-built, fixed-wing airplanes. But too many accidents, and the resulting tightening up of Civil Aeronautics Administration regulations, rapidly dampened most people's enthusiasm for this sport.

Helicopter manufacturers, too, are going to run afoul of CAA regulations when they attempt to move into the civilian market. Their problem, in fact, is twofold:

• The need of getting CAA ap-

Beauty that's **family-proof!**



■ She doesn't put her foot down, just because he did. No need to. Family bickering about furniture beauty is a part of the past. More of today's furniture manufacturers can create beautiful table tops that say *no* to spots, stains, burns and blisters. Reason: a distinctive plastic surface.

Demands for permanence in furniture beauty are met every day by Fabricon Products, a division of Eagle-Picher and a leader in the development and manufacture of plastic laminates. Decorator patterns, warm colors, or delicate wood grains—sink tops, drainboards, kitchen cabinets, desks and table tops, bath walls, shower stalls, paneling, office partitions, or showcases—the application of Fabricon's *Lamin-Art* custom surfacing is endless.

And *Lamin-Art* is just one more way this Eagle-Picher division is translating advanced research into practical production. We welcome opportunities to share our experience. *Address inquiries to Fabricon Products, 6430 E. Slauson Ave., Los Angeles 22, California.*

Since 1843 **EAGLE-PICHER**

Divisions and principal products . . . CHEMICAL—lead and zinc pigments and oxides, sulphuric acid • CHICAGO VITREOUS CORPORATION—porcelain enamel frits, porcelain enameled steel buildings • FABRICON PRODUCTS—automotive products, plastics, waxed paper and cellophane food wrappers • INSULATION—aluminum combination storm enclosures, mineral wool insulations, diatomaceous earth products • MINING & SMELTING—zinc, lead, germanium, cadmium • OHIO RUBBER COMPANY—molded and extruded rubber products.

EAGLE EP PICHER

The Eagle-Picher Company, General Offices: Cincinnati 1, Ohio

TWO REASONS

1. Packaging, precision-manufactured by J. L. Clark, is a powerful selling force;
2. Clark packaging is completely practical, both in use and in cost.

Illustrated above are packages custom styled for Ray-O-Vac, Johnson & Johnson, Chap Stick, 3M and Merck Fruit-Freeze. Each is impulse sales-designed to follow through on brand image promotion and literally begs to be bought at point-of-purchase. Each is engineered for mass production, is light and non-breakable, and is a pleasure to use.

Clark's completely integrated metal packaging service assures the flexibility to serve a great variety of specialized needs. A Clark representative will gladly explain how this service can work for you, helping to build increased sales for your product.

COLORFUL NEW BOOKLET GIVES BASIC FACTS ON HOW CONTAINERS ARE DESIGNED TO SELL

Write today for a copy of "A Businessman's Guide to Container Design." J. L. Clark Manufacturing Co., Rockford, Ill.; Liberty Division Plant and Sales, Lancaster, Pa.; New York Sales Office, Chrysler Bldg., New York 17.

Lithographed Metal Containers
J. L. CLARK

proval for their craft adds up to a lot of testing, both of individual components and of the helicopter itself. This runs into a lot of money, as much as $300,000—and that can price their product right out of the market.

• Under present requirements, you have to have a fixed-wing pilot's license before you can get a helicopter pilot's license. This, according to the helicopter industry, is nonsense, because each type of craft is completely different from the other, and demands a completely different kind of flying ability. But as long as this regulation remains in force, it will badly hamper the growth of a private helicopter industry. The CAA points out, however, the prerequisite fixed-wing pilot's license can be a student license, which can usually be earned after about eight hours of instruction.

• **End Run**—At present, Bensen gets around this rules impasse by selling you only what is basically a glider. In other words, you can't buy a Gyrocopter as such. You buy the glider, and if you want to put a motor on it, Bensen will sell you a conversion kit—engine controls, fuel system, pusher prop—but not the engine.

If you then add an engine to it yourself, you can qualify to fly your Gyrocopter under the less strict CAA rules governing the operation of experimental aircraft. These regulations allow you to get up into the air, but not very far away from the field. And the CAA gives no promise of renewing its O.K. when the initial period of the experimental license runs out.

• **Present Picture**—As it now stands, there's no method that gets all the way around the CAA's fixed-wing pilot license requirements (there's talk of a new ruling that would modify it somewhat).

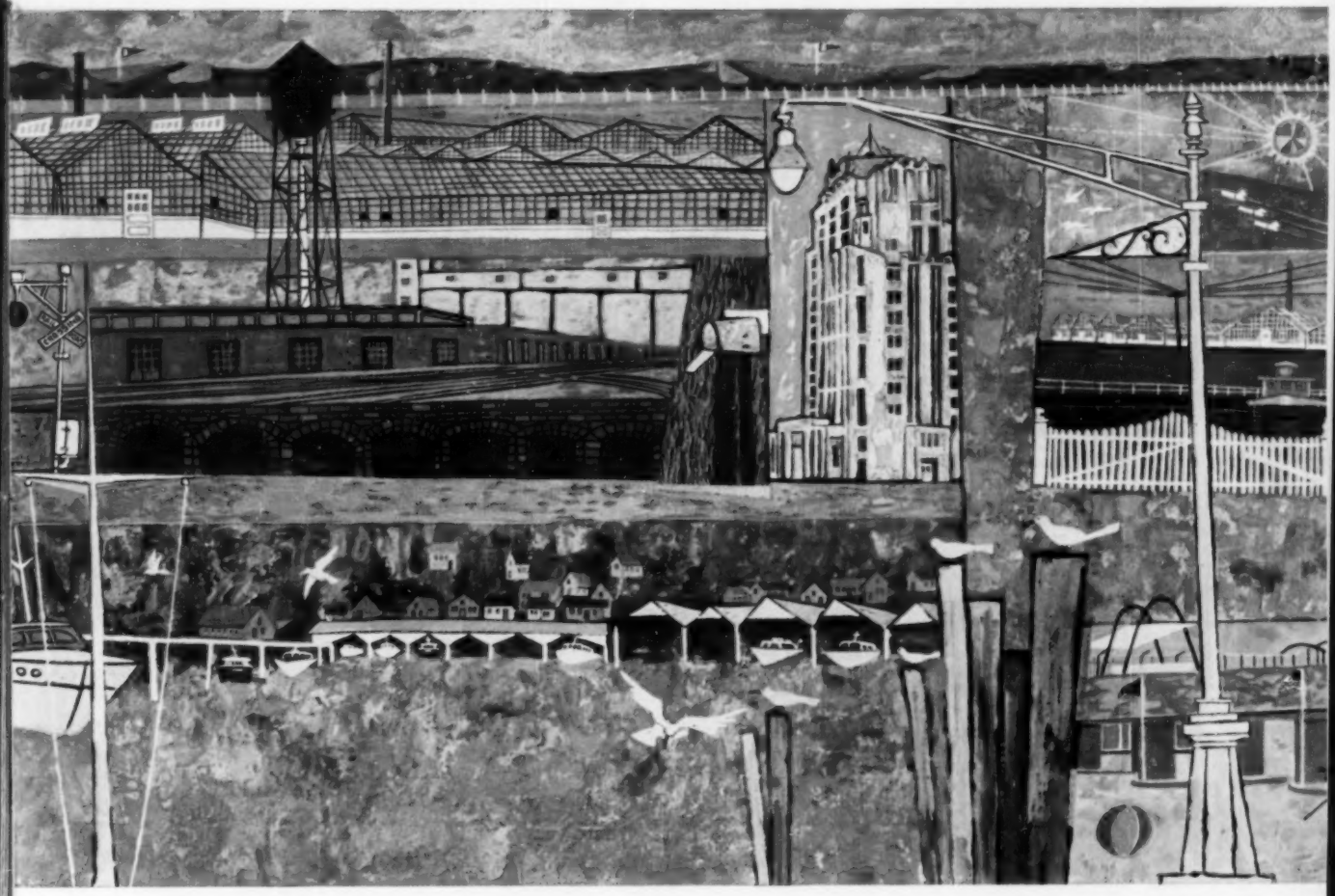
And, though no one recommends flying through the "experimental" loophole for the long run, it seems to be the only answer for the pilot who insists on having his helicopter flivver today. Another drawback to experimental flying is insurance policies, which may not remain in effect when you are off flying in experimental aircraft.

• **Ready for the Day**—If the day of the one-man private helicopter does break through the red tape and developmental problems now clouding it, Bensen will be ready to supply you with a fully equipped Gyrocopter for about $3,000. And for free, he promises to teach you to fly in three one-hour lessons, utilizing his special training rig that he developed himself.

This rig, towed behind a station wagon, is actually a Gyro-Glider at the end of a long aluminum boom. It gives you a chance to try out your abilities without letting you get more than a few feet off the ground. **END**

MT. CLEMENS:

Another city in Southeastern Michigan has planned for industry



"The ideal place to live is not in a big city, but near one." When Ralph Waldo Emerson wrote this, he might well have been referring to Mount Clemens—just 30 minutes from Detroit. This whole metropolitan complex, with Mount Clemens on its edge, is rich in commercial, cultural and educational advantages.

To Mount Clemens residents, this is a "plus." For it can be said that here there is something for everyone. Work and play are minutes apart. Water, plenty of it, is available for both industrial processing and recreation. Here is world-famed Metropolitan Beach, and the largest fleet of pleasure boats on fresh water.

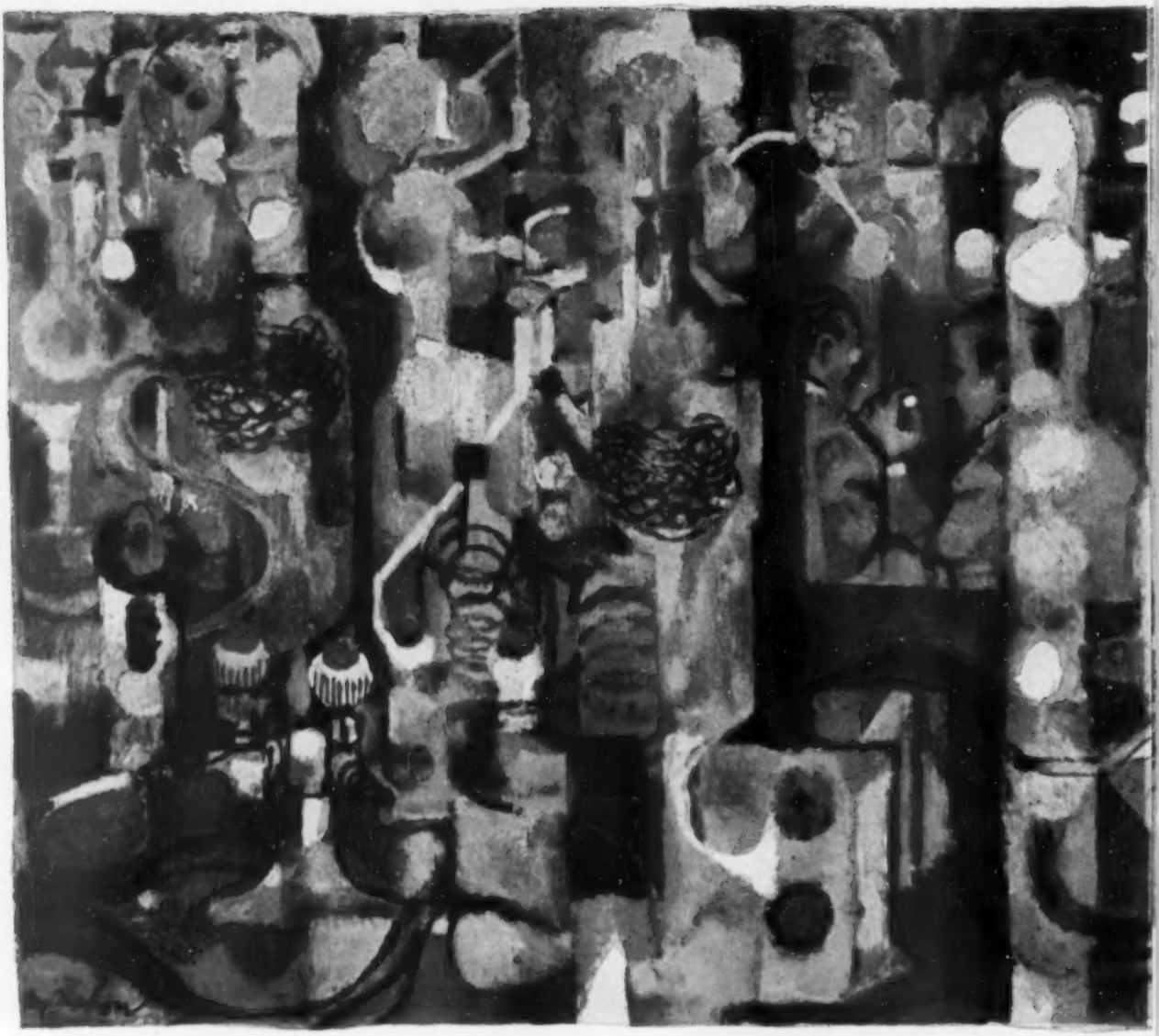
Mount Clemens is stable because it is not a new "mushroom" town, yet it plans for the future. For instance, the Industrial Development Committee has set aside land zoned exclusively for industry. Desirable residential areas are but a step away from the city's center. An extensive downtown redevelopment program is underway.

Energetic Mount Clemens is charting the kind of future *it* wants and *you* want for your business. Mount Clemens is one of many cities in Southeastern Michigan planning for industry. We would like to tell you more about it. Write our Plant Location Service, Detroit 26, Michigan.

DETROIT EDISON *Serves Southeastern Michigan*

Mount Clemens—a progressive city and an excellent location for business, industry and all-around good living.

painting by Charles Wysocki



Because Morton's scientists constantly study the effects of all kinds

Only Morton can offer you the right salt

Morton salt plays a vital part in the growth of more than sixty-two major industries, including the many-sided food and chemical industries. And more and more companies are finding that Morton can help save them money.

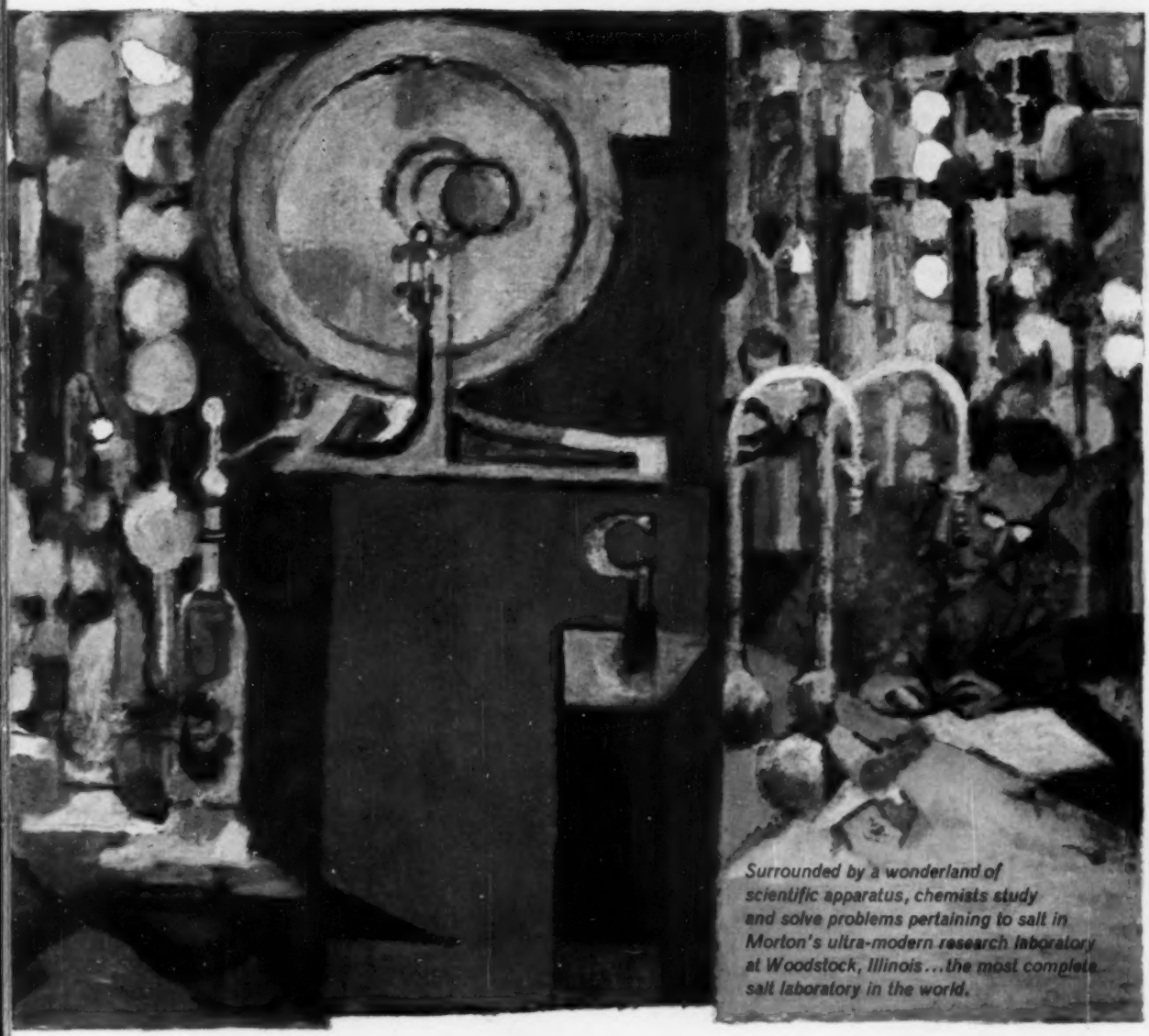
As the only nation-wide salt company, Morton is able to supply industry with salt from *all* three sources: from mines, wells, and solar ponds. As a result, Morton can produce the right salt for *any* industrial use.

Salt is not all the same

You may not realize that there are three different types of salt and nearly 100 different grades—each with its own peculiarities of purity, shape, texture, and rate of solubility. But you should realize that the right salt for the right job will help you reduce costs, save time, and turn out products of uniform high quality. That's why it's wise to consult a salt specialist.

How Morton can help you

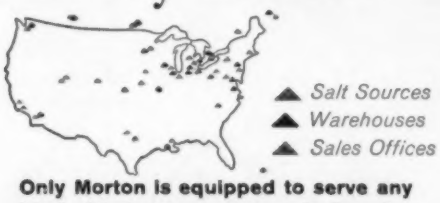
Because Morton makes every grade of salt, you can get expert, impartial advice on which grade or grades will do the best job for you. If your Morton salesman personally can't solve a salt problem for you, he can refer the problem to Morton's research laboratory for quick, thorough analysis. This service help you get from Morton may be worth thousands of dollars to you every year.



Surrounded by a wonderland of scientific apparatus, chemists study and solve problems pertaining to salt in Morton's ultra-modern research laboratory at Woodstock, Illinois...the most complete salt laboratory in the world.

of salt for every use... Because Morton produces every kind of salt.

for every industrial use, coast to coast



Only Morton is equipped to serve any kind of industry, anywhere in America

Regardless of your size, your needs, or your location, Morton has the facilities to serve you. Morton has 14 strategically located plants, including sources of supply in Canada and the Bahamas, plus sales-service offices in all key cities. And only Morton can offer you fast delivery anywhere in the country.

MORTON SALT COMPANY

INDUSTRIAL DIVISION

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The best first buy in making your office automatic

Friden Creates A New World For Business

Among automatic calculators, the fully automatic Friden stands out as does the tallest building on a city's skyline. It alone is — The Thinking Machine of American Business. Now and always you will need this *basic* office machine — to handle automatically the figure-work routines of payroll, invoicing, inventory, sales analysis, all statistics!

You move your business deep into the new *automatic* figuring era the day you buy a Friden Calculator. It performs more steps in figure-work *without operator decisions* than any other calculating machine... delivers near instantaneous answers at the touch of a key... is the essential programmer in many IDP* systems. Watch the Friden Calculator go to work on your toughest figuring routines. See the *time savings* it brings. Many models, all simple to operate. Call your nearby Friden Man.

*Integrated Data Processing

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© Friden Calculating Machine Co., Inc., San Leandro, California — sales, instruction, service throughout U.S. and the world.

In Marketing

• • •

Norco Readies Gas Refrigerator Line In Bid for Market Vacated by Servel

With Servel out of the manufacture of gas refrigerators, temporarily at least, other companies are readying to fill in the gap.

Norco, Inc., Los Angeles distributor of gas refrigerators for trailers and users of LP gas, will hit the home market in January. Its manufacturer, Krefft, of Dusseldorf, Germany, will deliver a full line of home boxes, from the 2-cu. ft. size to 11 cu. ft. The largest model will be priced at about $400, $100 below the comparable Servel model, says Norman H. Lee, Norco president.

One reason Lee believes he will succeed is that he has the unofficial blessing of American Gas Assn. and the backing of a working group of utilities, he says.

A close observer feels that lack of support by the utilities was one reason the Servel operation buckled. He estimates that gas refrigerators now installed contribute some $60-million in annual revenues to the utilities, hence represent a potential worth backing. Servel itself charged the utilities with reneging on their responsibilities back in 1951, when the gas refrigerator scare was at its height—a charge that Consolidated Edison Co. of New York denied (BW—Sep.29'51,p121).

• • •

Milk Price Fixing Is Charged To Oregon Group and Safeway

A federal grand jury in Portland, Ore., returned an indictment against Oregon Milk Distributors, seven of its members, and Safeway Stores. **The charge: conspiring to fix milk prices in the Portland marketing area.**

According to the indictment, the defendants "agreed to fix prices paid to producers for raw milk, to fix distributors' prices for bottled milk and other fluid milk products, to establish noncompetitive quantity discounts for bottled milk, and to restrict and eliminate competition among distributors."

William Lubersky, attorney for the association, denied the charges. He contended that the milk industry in the Portland area pays the highest price to the farmer of any West Coast major market—and that Portland families pay less than the families of any other major city on the Coast.

• • •

Who Owns an Advertising Idea? Schick Case May Bring an Answer

A legal action is coming to trial that has broad implications for the advertising industry. A federal judge in Philadelphia has issued a temporary injunction restraining Schick, Inc., and its agency, Benton & Bowles, Inc., from using ads showing a man rubbing his face with cotton to test the efficiency of Schick's electric shaver. The injunction was issued at the request of another agency, Warwick & Legler, Inc., which claims it originated the idea. **The hearing on making the injunction permanent, set for January next year, may go a long way toward clarifying ownership of advertising ideas.**

In asking for the injunction, Warwick & Legler told the court it originated the cotton-test idea last year when it had the Schick advertising account. According to W&L, Schick rejected the idea, subsequently moved its account to Benton & Bowles. Schick then asked W&L to waive claim to the idea, stating that B&B had come up with a similar notion. W&L refused, and negotiated selling the idea to Remington Rand Div. of Sperry-Rand Corp., for advertising its electric shaver.

Chief point of dispute is whether or not Schick paid for the idea before leaving W&L. A termination agreement between Schick and W&L reportedly specified that Schick owned any unused ideas it had paid for. Schick contends its 15% commission payments cover the cotton-test idea.

MORE NEWS ABOUT MARKETING ON:

• P. 122 Why Consumers Are Not Buying Hardgoods.

• P. 133 United Artists Corp. Expands Into New Fields.

• • •

Supermarkets Report 1956 Sales Were Hefty, But Profit Margin Sagged

Last year was a good sales year for members of the Super Market Institute. According to the institute's 1957 report (covering 1956), SMI member companies gained an average 17% in sales, against 3% for all retail stores.

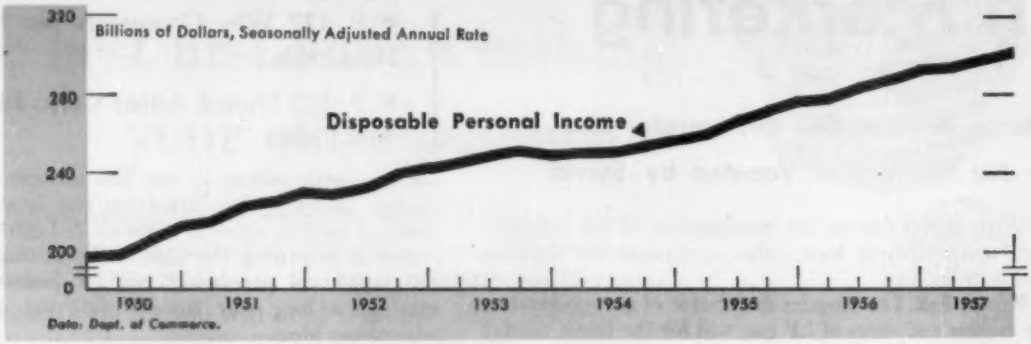
It's true that expansion accounted for much of the outsize gain in volume. Stores that had done business in both 1955 and 1956 reported only a 4% pickup.

More stores had higher gross margins than had reported them in preceding years—but more had higher operating expenses, too. The result: Net profit for the typical supermarket was down to 2.13% of sales before taxes, from 2.56% in 1955.

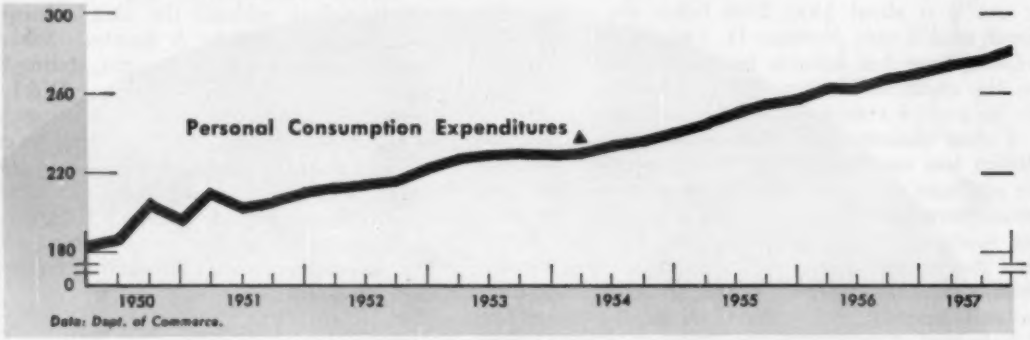
Nonfoods accounted for 5% of total sales; two years ago, they claimed only 3.5%. Health and beauty aids still topped the list, with 93% of the supers selling them. Over half (58%) of the companies carried records; 40% sold underwear, and 23% other softgoods (not counting socks and hosiery). And 13% have appliances; 19%, flowers.

About 51% of SMI members offer trading stamps, against 39% the year before. **Some 60% felt that stamps produced enough sales to absorb their cost.** Many were dubious about the stamps' future, though. Of the companies that gave stamps, 33% believed stamps are here to stay; 10% felt they wouldn't last much longer. Companies that didn't give stamps felt more strongly they were on the way out. Only 9% of non-stamp stores said stamps would last; 29% said the stamps' days were numbered.

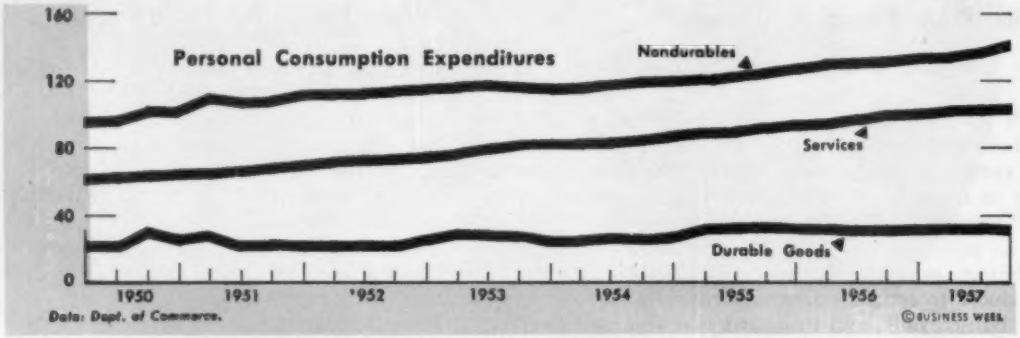
1 As never before, consumers have the money to keep the boom going...



2 And they are spending more on consumption than ever...



3 But when you break that down, it shows durable goods getting a smaller share.



What's the Matter With

Just about everybody is puzzling over the paradox that emerges from the charts above.

U.S. consumers obviously have money to spend, but they are not spending it nearly fast enough on durable goods—autos (page 81), appliances, and the like—to give a real lift to the economy.

Economists, manufacturers, and retailers alike want to know why.

One way to approach the problem is through economic analysis, the other is by talking with manufacturers and retailers who must grapple with it on the practical level to make ends meet.

• **Double Answer**—This week BUSINESS WEEK tried both methods. It found:

• A wide variety of explanations, many of them contradictory for the situation that has prevailed through most of the year.

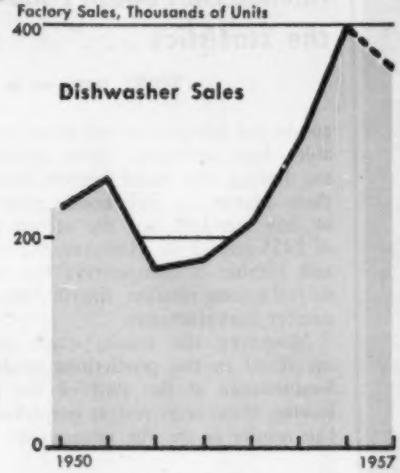
• An optimism—probably bolstered by some wishful thinking—for 1958 prospects. At least one economist looks hopefully for a "consumer breakthrough" in the second half of 1958.

Like almost all economists, he is betting the consumer will take up any slack as a result of the projected dip in capital outlays (page 23).

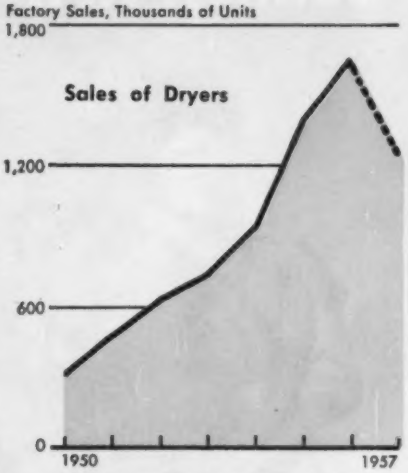
I. The Conundrum

Economists, brooding over their charts and statistics, can demonstrate that the consumer has as much money as he ever did to spend on durables. Add up all the things he must spend on debt payments, insurance, rent, food, utilities—and you find that the consumer still has lots of income left. One ex-

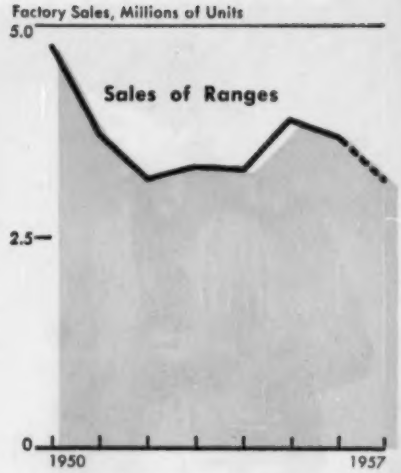
4 This shows up dramatically in sagging appliance sales.



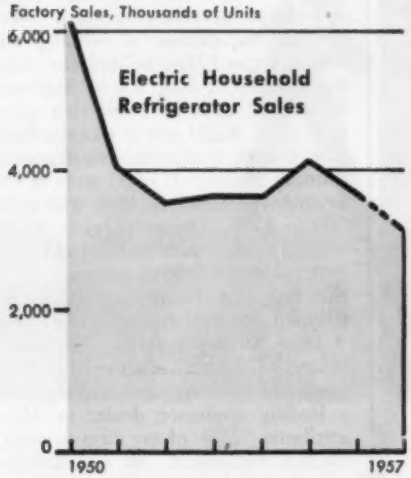
Data: National Electrical Manufacturers Assn., BUSINESS WEEK Est. Based on 8-Month Industry Figures.



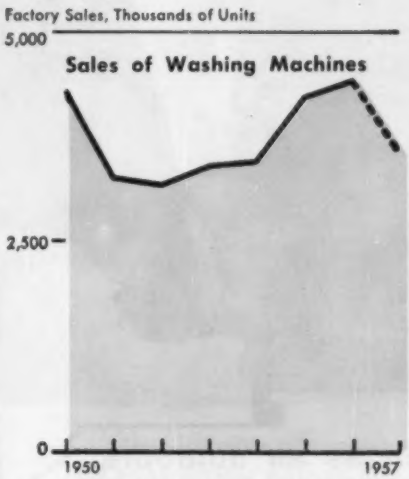
Data: American Home Laundry Manufacturers Assn., BUSINESS WEEK Est. Based on 8-Month Industry Figures.



Data: Gas Appliance Manufacturers Assn., National Electrical Manufacturers Assn., BUSINESS WEEK Est. Based on 8-Month Industry Figures.



Data: National Electrical Manufacturers Assn., BUSINESS WEEK Est. Based on 8-Month Industry Figures.



Data: American Home Laundry Manufacturers Assn., BUSINESS WEEK Est. Based on 8-Month Industry Figures.

...which raises the question...

Consumer Hardgoods in a Boom?

pert estimates this spendable margin at $57-billion, the highest ever and 3.6% ahead of the previous year.

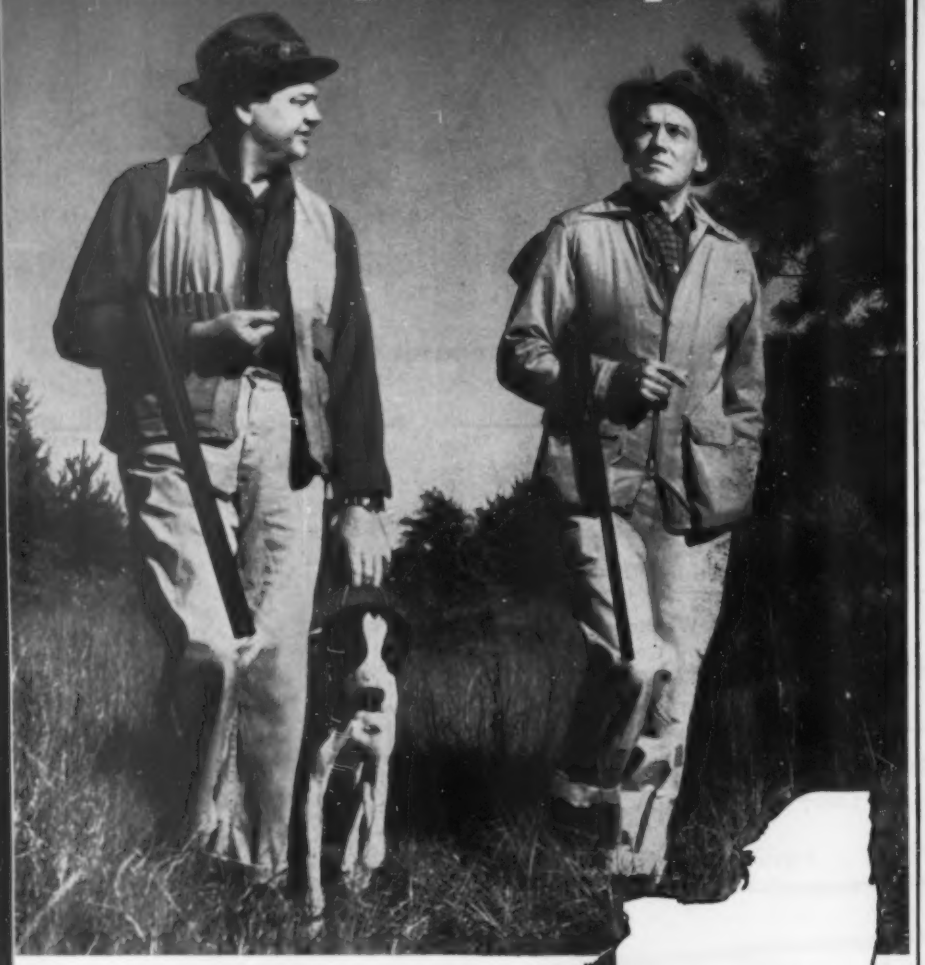
Of course, this so-called optional income has to be deflated for price increases. So far this year, the Consumer Price Index is still a bit more than 3% ahead of last year, despite a flattening out in the past couple of months. But incomes are up slightly more than this, so in terms of buying power the consumer is as well-heeled—even slightly better off—than he was a year ago.

• **Over-All Sales**—From this some economists conclude that there is no particular economic reason for the slump in many lines of durable goods. It's true that over-all durable sales at retail are up 5% for the first three quarters of 1957. Price increases account for most of this, along with slightly higher sales of new and used autos and furniture. But all that still leaves big appliances and the myriad of small appliances in the middle of a slump that statistics alone cannot explain.

Perhaps the most reasonable economic explanation turns up when you examine the rate of increase in disposable income rather than the absolute level. The gain probably will run close to $13-billion for this year; but when you deduct for price increases it turns out that the increase in consumer purchasing power is the smallest since 1949. One economist points out that this slowed-down rate of gain could easily depress the consumer's zest for buying.

• **The Gainers**—On the other hand, 1957 can't be written off as a poor year for consumer spending. Outlays for

Chautauqua County, N.Y.



Business life is rich as all outdoors. Industry is healthy and growing. And a Marine Midland bank knows the area.

You first may think of New York's Chautauqua Lake region as a vacationland, or as a production center for fine furniture and metal products. You might know this county as New York's leading grape producer or as the site of the famous Chautauqua Institution.

You also may find it worth while to consider this region as a business location. The New York State Thruway runs across the county for 42 miles. You'll find good plant sites and an adequate labor supply available throughout this area in cities like Jamestown and Dunkirk.

You can enjoy all kinds of recreation, too, that nature provides without charge: sailing, hunting, fishing, swimming. Chautauqua County is truly a fine place to raise a family, a rewarding place to do business.

A Marine Midland bank serves this area with 7 offices. If you'd like more information, drop a line to John D. Hamilton, President of the Chautauqua National Bank, Jamestown, New York. This Marine Midland banker will be glad to share with you the bank's detailed knowledge of men, markets and materials.

MARINE MIDLAND BANKS

Building with the state of New York through 155 offices in 81 communities

Members Federal Deposit Insurance Corporation

". . . they see a lack of confidence that doesn't show in the statistics . . ."

STORY starts on p. 122

goods and services, as well as some durables, have increased. Even appliances are having the third biggest year in their history, a full boom measured by any standard but the record years of 1955 and 1956. However, the rough and tumble of competition has taken its toll among retailers, distributors, and smaller manufacturers.

Moreover, the results don't match up at all to the predictions made by businessmen at the start of the year, leaving these seers just as perplexed by the results as are the economists.

II. Groping for Causes

Once you get beyond the gross figures used by economists, you find some clues to why consumers aren't shelling out the money they obviously have.

Take the decline in housing starts, which began falling behind the year-before figures as long ago as September, 1955, and have followed that pattern ever since. Right now it looks as though new private residential construction is running at about 973,000 units in 1957, against 1,093,900 in 1956 and 1,309,500 in 1955. The economists attribute this at least in part to the tight money policies of the federal government plus the fact that family formations have dropped below the peak postwar years.

• **How Strong a Brake**—It's hard to measure the direct relationship between appliance sales and housing starts. But a leading appliance dealer in Atlanta attributes "25% of my drop in sales on kitchen equipment" to the slowdown in residential construction.

It's not just that fewer houses are being built that need equipping. When building is booming at a fast clip, people are moving around, and they tend to buy appliances. As one retailer in Houston told BUSINESS WEEK: "In a new house, people might use a few old items, but not for long—they want new appliances. So you are taking potential customers out of the market when fewer houses are going up."

• **Attitudes**—Beyond the effects of the housing decline, some economists now place more and more emphasis on consumer attitudes in their search for reasons for the consumer durable lethargy. Previously they tended to ignore this factor—but now they believe that many people are apprehensive about the stock market, prices, foreign affairs. They see a lack of confidence that doesn't show up in statistics.

Still others point to a significant

k.p.
ON SEA STILTS

Over 100 miles off our east coast, the Air Force is building manned radar stations, held above the waves by "stilts" driven into the sea bottom. Crew accommodations include complete kitchen facilities designed and fabricated by Blickman.

This unusual food service project demonstrates Blickman's wide-ranging experience. At sea, Blickman galleys have set the standard for over 25 years. On land, Blickman mass feeding installations are found in hospitals, plants, restaurants and offices. In other areas too, where metal must be worked, the Blickman name is associated with quality. Leading hospitals use Blickman stainless steel operating room equipment; and from pharmaceuticals to nuclear research, industry calls on Blickman for difficult custom fabrication in alloys.

Blickman leads, because Blickman commands unequalled experience, tools, and metal-working craftsmen. For details write: S. Blickman, Inc., 7111 Gregory Ave., Weehawken, N.J.

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Hotel Show, Nov. 11-15, Booth 2178
Chemical Show, Dec. 2-6, Booth 325

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This Delta Abrasive Cut-Off Machine does precision cutting jobs with cost-cutting speed for Calumet Manufacturing Co., Chicago manufacturer of camera and photographic processing equipment. Calumet uses versatile, low-cost Delta machine to cut stainless steel angle irons, special lengths of brass, and copper tubing to tolerances of plus-minus 0.002-inch. This is typical of the way in which thousands of manufacturers are cutting costs by using versatile, accurate Delta Power Tools to supplement, or replace, expensive single-purpose machines. For more details, write:

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WESTERN RUBBER CO.
GOSHEN 1, INDIANA

MOLDED AND LATHE-CUT RUBBER PARTS FOR ALL INDUSTRIES

change in consumer buying habits that has become more apparent this year—a change rising both from higher prices for essentials and from the fact that the make-up of families today demands larger outlays for these very essentials.

• **Growing Up**—After the war, the reasoning goes, young families were moving by hordes into the Levittowns of the country. They were having babies aplenty, but that did not produce much immediate increase in their demand for food and clothing. So they could afford the new appliances that would make the young mother's housework so much easier.

Now those same people have 6- and 12-year-old children who must be fed in greater quantity (at higher prices), clothed with more expensive garments, and who generally create a much bigger drain on the family funds. Add in the facts that local taxes are up, public transportation costs more, and auto carrying charges are much higher, and you get what some economists see as a family budget squeeze.

• **Dip in Jobs**—All of this leaves out of account another important trend—a dip in factory employment at a time when it should be expanding. Not only are jobs fewer, but overtime pay has practically disappeared.

It's against this background that the durable goods industry has to compete in a market flooded with new cars, new washing machines, and refrigerators during a postwar boom unprecedented in size and length.

III. Businessmen's Views

Talking to those closest to the problem—the men who make the products and those who sell them to the public—BUSINESS WEEK reporters dug out a variety of explanations for the disappointing performances of durable goods.

Perhaps the most succinct answer—one that encompasses many others—came from a Chicago retailer who said: "The durable goods bought in the postwar boom years have proved altogether too durable."

• **What, No Obsolescence?**—This is echoed by retailer after retailer. They place a good part of the blame on appliance manufacturers who, they think, have failed to do what the auto industry does—create the planned obsolescence that makes new customers out of old ones.

A disgruntled Atlanta dealer complained: "The appliance makers still seem unable to manufacture what people really want."

Most, though, admit that the manufacturer is up against some pretty tough conditions, not the least of which is saturation in many lines that have proved bellwethers in the past.

• **Functional**—Appliances, they con-

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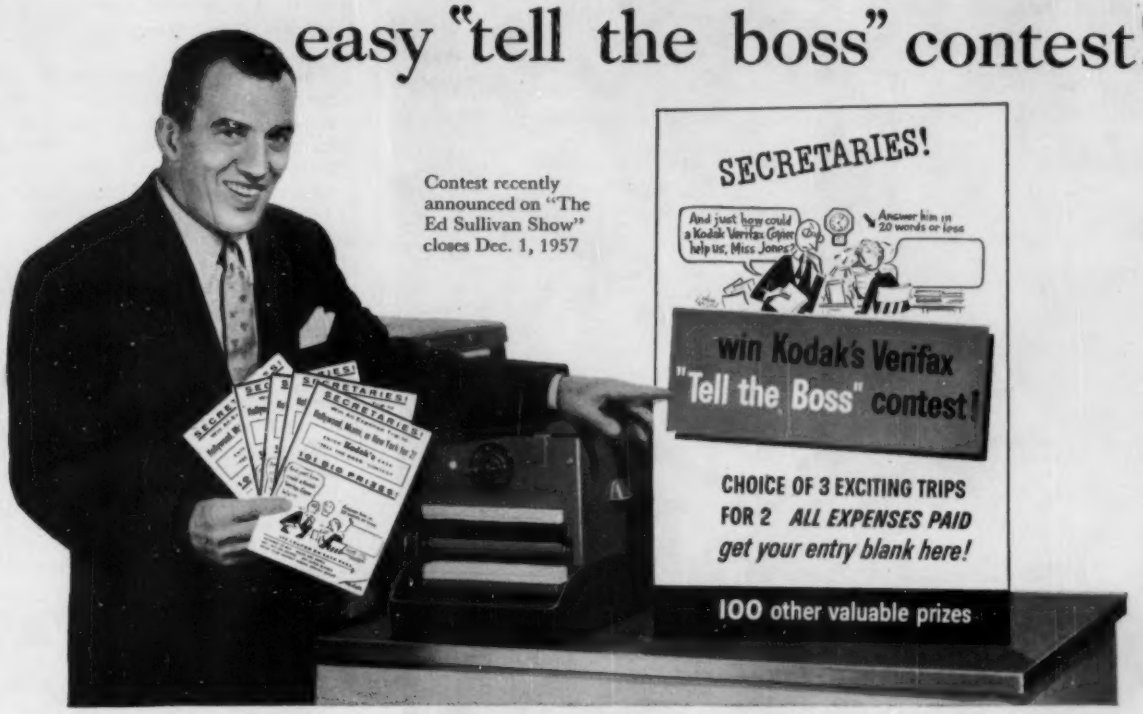
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	Steel	Hi-Ti
Relative weight	1.00	0.57
*Tensile strength (psi)	174,500	169,000
*Tensile strength-to-weight ratio	174,500	295,750
Fatigue strength (psi) at 8,000,000 cycles (with 10% preload)	40,000	50,000
Strength-to-weight ratio at peak strength	40,000	87,500
*Elongation (%)	15.6	16.9
*Reduction in area (%)	56.6	36.5

*Based on .357 gage specimen made from bolts

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cede, are sold chiefly for their function. "As long as a range cooks, a washer washes, and a refrigerator freezes," said a Chicago retailer, "a family will keep it until it falls apart especially when there are other things on which he can spend his money."

This problem of long-lasting, functional products in a saturated market was sharply described in the case of refrigerators by Herman F. Lehman, general manager of General Motors' Frigidaire Div. He told an audience at the preview of Frigidaire's 1958 line that "only about 8.5-million refrigerators in U.S. homes are 10 years old or older, 18% of those in use. What is much more important is the fact therefore 82% of the refrigerators are less than 10 years old."

• **Plugs for Style**—In 1958 especially, manufacturers have set about trying to build style consciousness in the minds of consumers when they think about appliances.

Besides creating demand where it hasn't existed, manufacturers hope by this heavy emphasis on styling to "get off the price kick." Next to the lack of obsolescence and the saturated markets for a number of big items, the trade blames price conditions for its disappointing year.

• **Chaotic Prices**—It isn't just a matter of higher prices—"consumers," said a retailer, "never had it better"—but a condition that a Louisville merchant described as nothing less than "chaotic."

This price confusion has plagued the industry for a couple of years, with department stores meeting the discount house competition which started a period of wildly varying price cutting.

Many retailers still think that, as far as appliances go, price remains the dominant factor in selling. But others think the consumers are so confused about what they should actually pay without being hoodwinked that they are simply staying out of the market.

As a Philadelphia retailer put it: "This lull proves that you can't create a mass market on price alone. And that's the only thing we have had to offer lately."

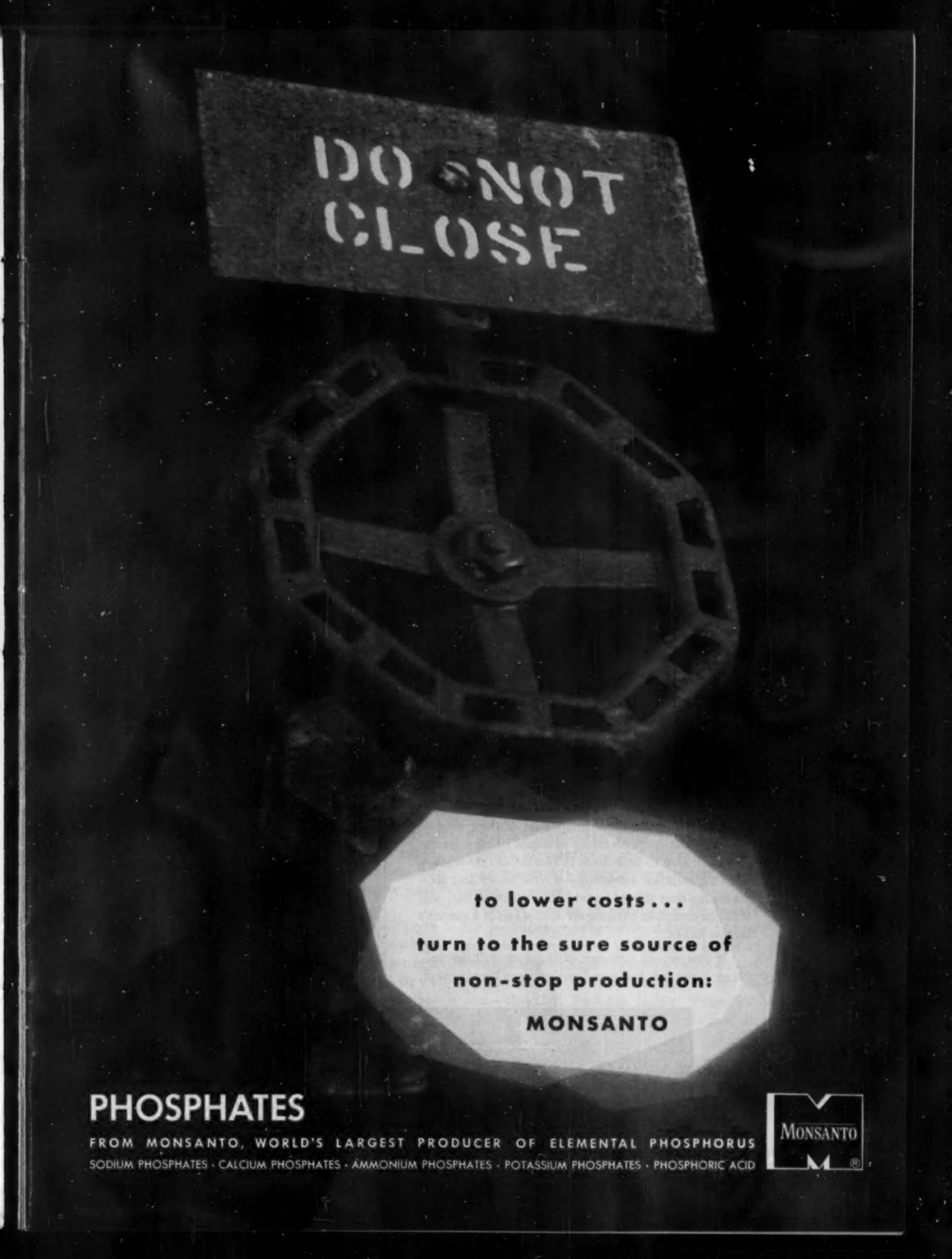
Even discounters are now complaining. The theory of a confused public stands up when you consider:

• The booming sales in the hi-fi market (BW—Sep.21'57,p62) where high prices fail to scare off buyers.

• An almost unanimous report from retailers that people, when they do buy, are buying the higher end of the lines.

• A surprisingly healthy volume of furniture sales, despite price increases and the absence of the universal price-cutting in appliances.

• **The Case of Furniture**—Furniture may supply a couple of clues to the troubles of consumer durables. For



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one thing, sales of furniture indicate that what some manufacturers are calling a "consumer buying strike" just doesn't exist. People are not reluctant to part with their money.

In the case of furniture, the reason may be found in the figures that show outlays for additions and alterations to homes at an all time peak and steadily climbing. Apparently, consumers—who have filled their kitchens with what they consider the absolutely necessary appliances—have now turned to replacing older furniture as they remodel their homes and to adding new pieces for the extra room.

Just as important, say retailers, furniture manufacturers have "finally succeeded in creating a concept of obsolescence."

Said one: "If you're going to have something that's out of style, you would rather not have it in your living room."

• **Effects of Leisure**—Furniture, of course, isn't alone in attracting the public. With added leisure time, people seem to be turning their buying attention to areas that only in recent years have caught on in a big way—boats, outboard motors to go with them, vacations (especially now that factory workers generally are getting paid for their summertime layoffs), foreign travel, and a host of cultural activities (BW—May4'57,p62).

Businessmen go on to point out other factors in today's market that can't be overlooked.

One is a sizable decline in the number of retail outlets for appliances. Commerce Dept. figures show a drop from 35,000 appliance dealers in 1948 to 27,000 in 1954, and there are probably 20% fewer now than in 1954. All of which means (1) a smaller distribution channel for a bigger volume of goods and (2) a scramble on the part of manufacturers to keep dealers by offering enticing price concessions—thus adding to the price confusion.

• **Credit Aches**—Then there is the generally tighter money market. Local banks are screening their individual loans for direct consumer durable purchases much more closely. As a result, more and more manufacturers are setting up their own financing companies to handle installment credit for their dealers. But for those appliance dealers who still must depend on local banks to handle their consumer paper, the tightness of credit hits forcibly at their ability to sell.

The credit of many smaller dealers is about as extended as banks think it should be. In fact, one of the biggest and best-known appliance retailers in the country offered this ominous note: "If bankers and distributors pulled the string on credit, 25% of dealers would be out of business." END

American Cyanamid Company	Florida
Anaconda Aluminum Company	Montana
Atlas Powder Company	Tennessee
Caterpillar Tractor Company	Colorado
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General Mills, Inc.	Ohio
General Motors Corporation	Michigan
International Business Machines	Kentucky
Johns-Manville Corporation	California
Koppers Company, Inc.	Pennsylvania
Mead Corporation, The	Tennessee
Monsanto Chemical Company	Missouri
New York Central System	Michigan
New York Life Insurance Company	Illinois
Phelps-Dodge Corporation	New York
Revere Copper & Brass Company	Illinois
Socony Mobil Oil Company	Wyoming
U. S. Atomic Energy Commission	Nevada
Westinghouse Electric Corporation	New Jersey

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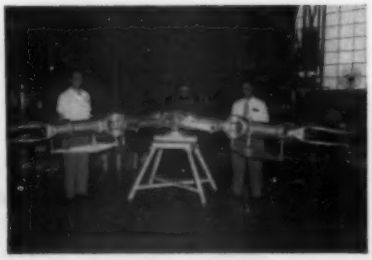

Whittled out of a large forging, this helicopter rotor hub combines high strength with light weight. Because it provides a high margin of safety with uniformly high properties even in light, finished sections, AISI 4340 steel was chosen. This nickel steel proved so satisfactory that Vertol standardized on it for the rotor hubs of all the world's largest commercial helicopters.

INCO NICKEL

Film Company Branches Into TV

● **United Artists Corp., revived from its postwar ills, sets up unit to finance and distribute filmed TV program series—a fiercely competitive field already.**

● **Another new unit of the company is going into the phonograph record and sheet music business.**

● **In both its new enterprises, United Artists will apply the formula that has been so successful in its movie business: Finance, distribute, but keep hands off the creative side.**

The rags-to-riches theme is a staple in Hollywood's diet of movie plots, so trite that it invites yawns. Yet the postwar history of United Artists Corp., now a leading distributor of films, puts substance impressively into the fiction device.

United Artists hit bottom—its rags period—in 1948-1950 with losses each year and a business that was dwindling as problems of TV and financing grew. In 1951, a new management team took over, headed by lawyers Robert S. Benjamin (now chairman of the board) and Arthur B. Krim (now president). With their associates—Max E. Youngstein, William J. Heineman, Seymour M. Peyser, and Charles Smadja—they assumed control in a deal that assured them of 50% of the ownership if they could show a profit within three years.

They didn't have to wait three years for their profit showing. In 1951 itself, United Artists came out with a $313,000 net on a gross of $19.6-million. Last year, it netted $3-million on a gross of $64.2-million, and its 1957 gross looks like at least $70-million. The Krim-Benjamin group acquired 100% control, but have since converted the company into a public corporation, listed on the New York Stock Exchange since July.

• **Branching Out**—Now UA is spreading into related fields of television and music. In a drive to become an integrated entertainment company, it has:

• Formed two new subsidiaries—United Artists Records Corp. and United Artists Music Corp.—to put the company into the phonograph record and sheet music business. These units are headed by Max Youngstein, one of the original 1951 group. This week, UA pressed its first two records.

• Completed plans for a TV film unit that will finance and distribute series of half-hour shows. UA expects to be pitching a minimum of three series in the 1958-59 selling season, which opens next February or March. It is already distributing part of its library of feature films to TV through a syndicated branch that grossed $2-million last year.

I. Into a New World

In pushing into these new but related fields, UA finds itself with plenty of company among movie people, but also with new competition.

For example, Paramount Pictures Corp. and twentieth Century-Fox Film Corp. have subsidiaries that make records. Nearly all Hollywood movie makers are in the business of making filmed shows for TV. Columbia Pictures Corp.'s Screen Gems subsidiary is an important factor in the trade, and Warner Bros. Pictures, Inc., and Twentieth Century-Fox are moving up fast in TV.

• **Fierce Competition**—Beside the movie companies, important producers and syndicators are trying to sell filmed TV shows—such outfits as Revue Productions, Inc., Desilu Productions, Ziv-TV, and Television Programs of America. Selling a program series is a hot battle (BW—Oct.5'57,p66). The mortality rate is high.

In the past season, for instance, producers made an estimated 175 pilot films (the samples that are shown to prospective buyers), and only 35 or 40 series were bought. TV film makers are cranking up for another busy season, aiming at getting an estimated 41 full series into production.

• **Unfamiliar Business**—Besides facing competition along the way, United Artists is moving into unfamiliar surroundings. The TV film unit is its first venture into the uneasy world of Madison Avenue, with its cost-conscious advertisers, its rating-conscious account executives, and its critic-conscious network program chiefs.

Krim and Benjamin, with the confidence born of their record of success with UA since 1951, talk freely about their prospects in TV film shows. They admit difficulties.

"We feel we are without specific experience in this field," says Krim, "but that is why we have hired a top man from one of New York's big TV film production companies to head our unit. Even if we felt we had no more to offer than other companies, we would still go into the TV business as part of our intention to enter all aspects of entertainment—not just movies."

To which Benjamin adds: "Back in 1951 we had only confidence. Today we have confidence plus a record of successful operation."

Basically, what UA plans to do, Krim indicates, is to apply to its new ventures the same pattern that brought the success in movie distribution: financing independent production units to permit creative talent to participate fully in profits.

II. Not a Producer

UA is one of seven major distributors of motion pictures, and the only one of the lot that is solely a distributor, with no production facilities for turning out pictures.

Through its 27 exchanges around the country and its overseas branches and subsidiaries, United Artists performs the function known as releasing a picture. That means booking films into theaters, promoting and exploiting them, as well as physically handling the film prints. For rendering such services, UA takes a flat fee—30% in the U.S., and 40% abroad—from the gross revenue from theatrical exhibition.

• **Financing Pictures**—In addition, since 1951, UA has performed another important service: It provides or obtains financing for the movies it distributes. This is generally done by guaranteeing a bank loan directly to the independent producer.

This helps to assure UA of a flow of pictures to distribute. Independent producers generally need financing and will release their pictures only through distributors who provide it. A happy consequence of UA's share in the risk is that it also takes from 25% to 50% of the profits of the pictures it distributes.

• **Artists Unite**—Mary Pickford, Charlie Chaplin, Douglas Fairbanks, and D. W. Griffith founded United Artists in 1919, to distribute the pictures they were making. As UA grew more influential in the trade, it handled the films of other producers, too, but it had no ownership in the films it distributed.

After the war, picture production declined, producers ran short of financing, and distributors started competing

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". . . Krim and Benjamin lay great stress on importance of creative autonomy . . ."

STORY starts on p. 133

harder in a shrunken market. That's when UA began to decline. It sustained losses in 1948, 1949, and 1950.

• **Turnabout**—At the point where Krim, Benjamin, and their associates came in, however, trends in Hollywood were beginning to work in their favor.

Due to such factors as the consent decree that separated movie production from exhibition, and the audience shrinkage as TV grew, movie-making began to move out of the giant studios, which cranked out extravaganzas and potboilers alike, and into the hands of independent producers who worked on one or two high-quality pictures a year (BW—Sep.22'56,p106). The tax laws further encourage stars and directors to establish their own producing companies rather than work for studio salaries, however fabulous. UA decided to encourage this trend and cash in on it.

III. Way of Operating

Though the big studios also began opening their arms to independents, UA had certain advantages. For one thing, it wasn't encumbered by studios and production overhead; it could move quickly to take advantage of changing conditions. It offered independent units a place to take their pictures for distribution; it offered financing an opportunity to share in profits, and an intangible but important element—creative freedom.

• **Loose Rein**—While not denying that a hope of greater financial rewards attracted the independents to their banner, Krim and Benjamin lay great stress on the importance of the creative autonomy they offer talent. In their contracts, they require only that they approve basic picture ingredients, such as story line, casting, and costs. In many cases, where important stars are involved, they waive some of these rights.

"We need only what will protect us against loss," says Krim, and a film with a big star and a low budget is sure to recoup its cost.

"We stay a million miles away from the production," says Benjamin. "The producers can film their pictures anywhere they want to."

Both men are convinced that this policy has brought them most of the big-name stars and producers they now handle.

• **Satisfied Customers**—As an example, they cite Hecht, Hill & Lancaster, one of Hollywood's hottest producing out-

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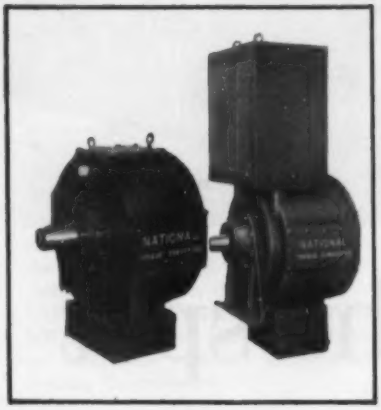

National Torque Converters are manufactured with or without integral cooling systems.

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". . . many top songs have been derived from UA-released pictures . . ."

STORY starts on p. 133

fits, which releases through UA. Harold Hecht and star Burt Lancaster had teamed up as independents and made pictures at both Warner Bros. and Columbia Pictures. Lancaster felt restrictions on the way he wanted to make his pictures. One day in early 1953, he walked into UA offices and signed a contract for a two-picture deal. This was the first instance where UA provided all the financing.

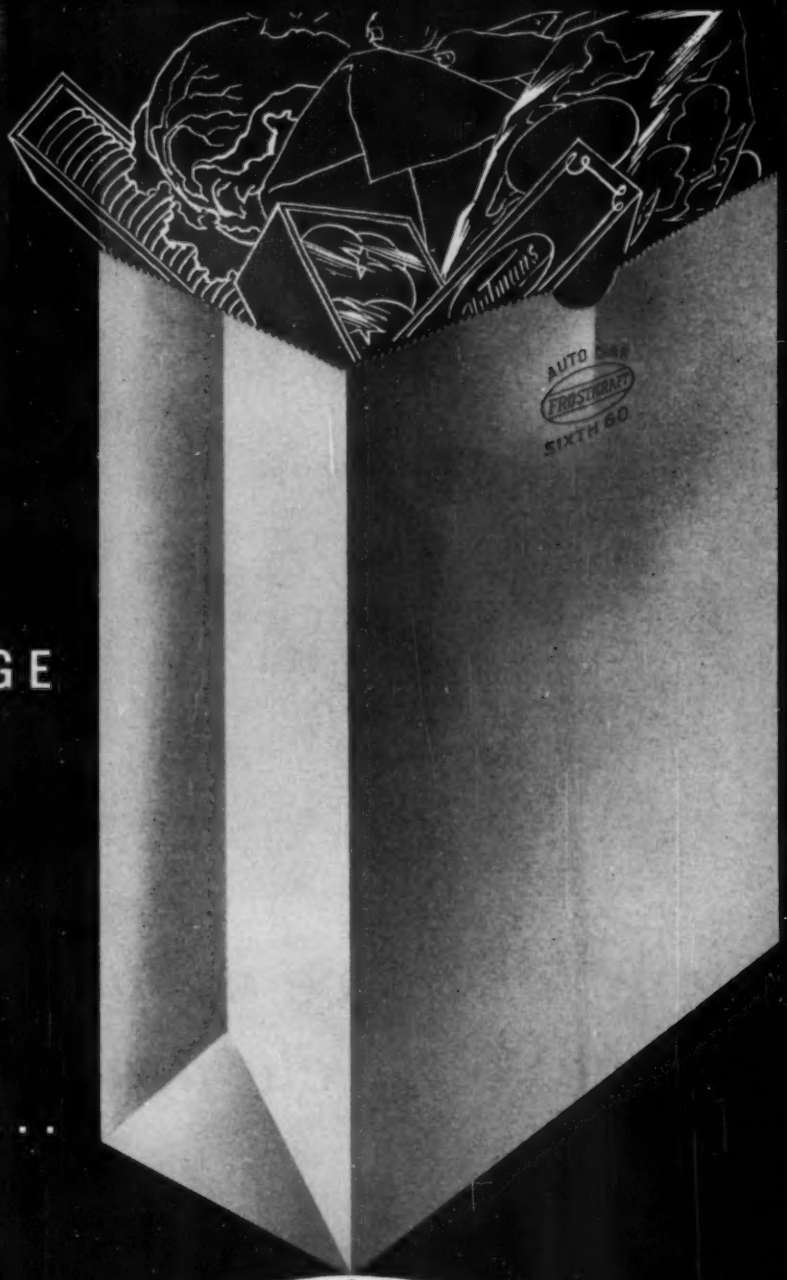
Krim and Benjamin felt that the first picture, Apache, was a test case of their relationship with the creators. They kept hands off. Apache grossed $5-million in worldwide distribution and led to a string of successes like Marty ($5-million gross), Trapeze ($15-million), and the current Sweet Smell of Success ($4.5 million so far). UA has released seven Hecht, Hill & Lancaster pictures, has two more ready for release, and another six are planned for production.

• **Applied to TV**—United Artists believes that similar methods, applied to TV, will gain a competitive edge in TV film-making. Krim and Benjamin are confident that they will be able to attract stars who have previously resisted the idea of making films for television. They are even thinking about going far beyond the half-hour film series and perhaps filming 90-minute special shows, the kind that lure big names in cast and sponsorship.

• **And to Music**—Similar thinking guides the operation of the music business. According to Youngstein, UA has two aims: (1) Generally to expand its operations in an important related entertainment field; (2) specifically to exploit the music from its movies.

Many top songs have been derived from such UA-released pictures as Limelight, High Noon, and Moulin Rouge. UA has received very little from these hit songs, Youngstein says, in proportion to what they earned. That's because it had to farm out both the recordings and the sheet music. With its new setup, it will be able to profit from the popularity of the music in its movies.

The music subsidiaries also offer a chance to coordinate promotion that will benefit the songs and the movies alike. In attracting singers to work for UA, Youngstein intends to apply the basic policy of offering a chance to participate in earnings. He promises that by middle of next year, he will have a half dozen top singing stars working for UA. END



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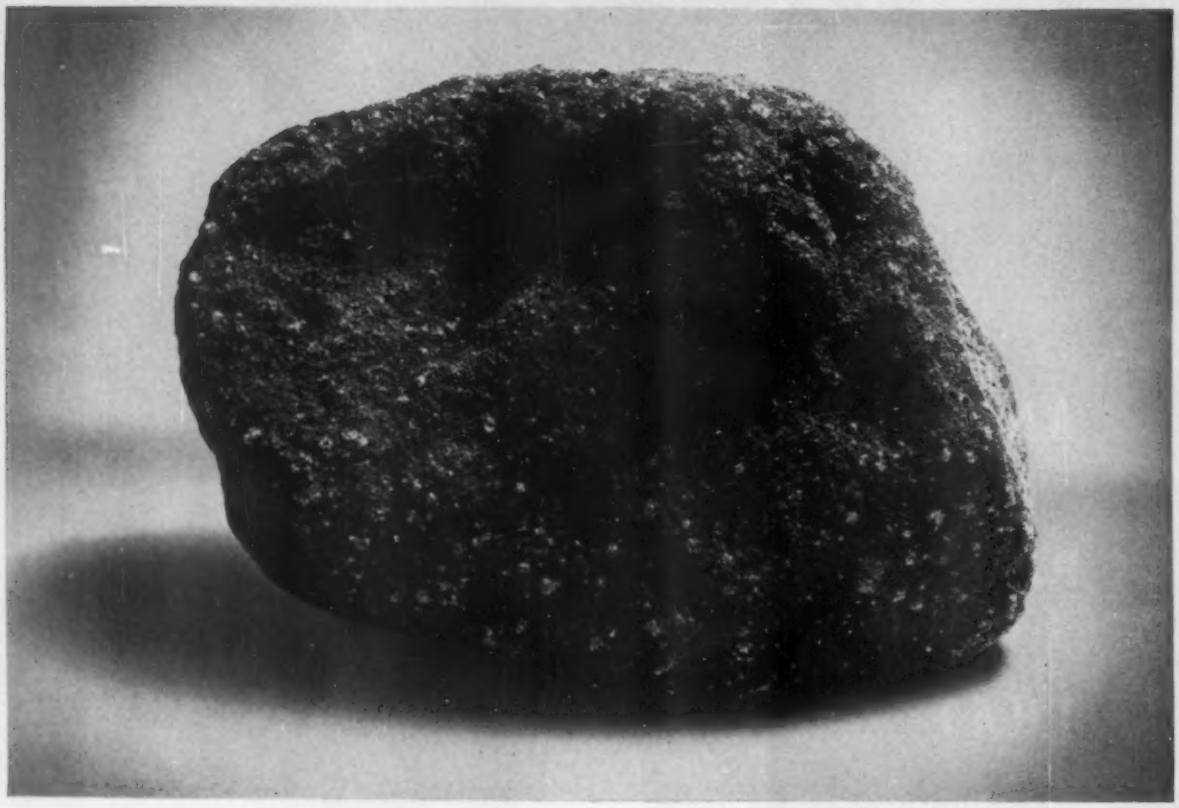

Atoms for peace in this new Calumet & Hecla uranium find

Here's one of the first samples of uranium ore . . . a handful of potential power . . . taken from one of Calumet & Hecla's New Mexico properties where the ore body, after being blocked out by extensive drilling, is being developed for mining.

After all, it's only a step from mining copper to mining uranium. True, it's a step that requires a special know-how, a pioneering spirit, and considerable courage coupled with sound thinking and planning. And that, of course, is a combination of qualities that has characterized Calumet & Hecla since its beginning nearly a hundred years ago.

But mining uranium and copper is just one of the important activities of this diversified company. Throughout its various operations . . . manufacturing, forestry, copper fabrication, wood products, as well as mining . . . you'll find tangible evidence of the sound management, and progressive thinking that insure successful operation.

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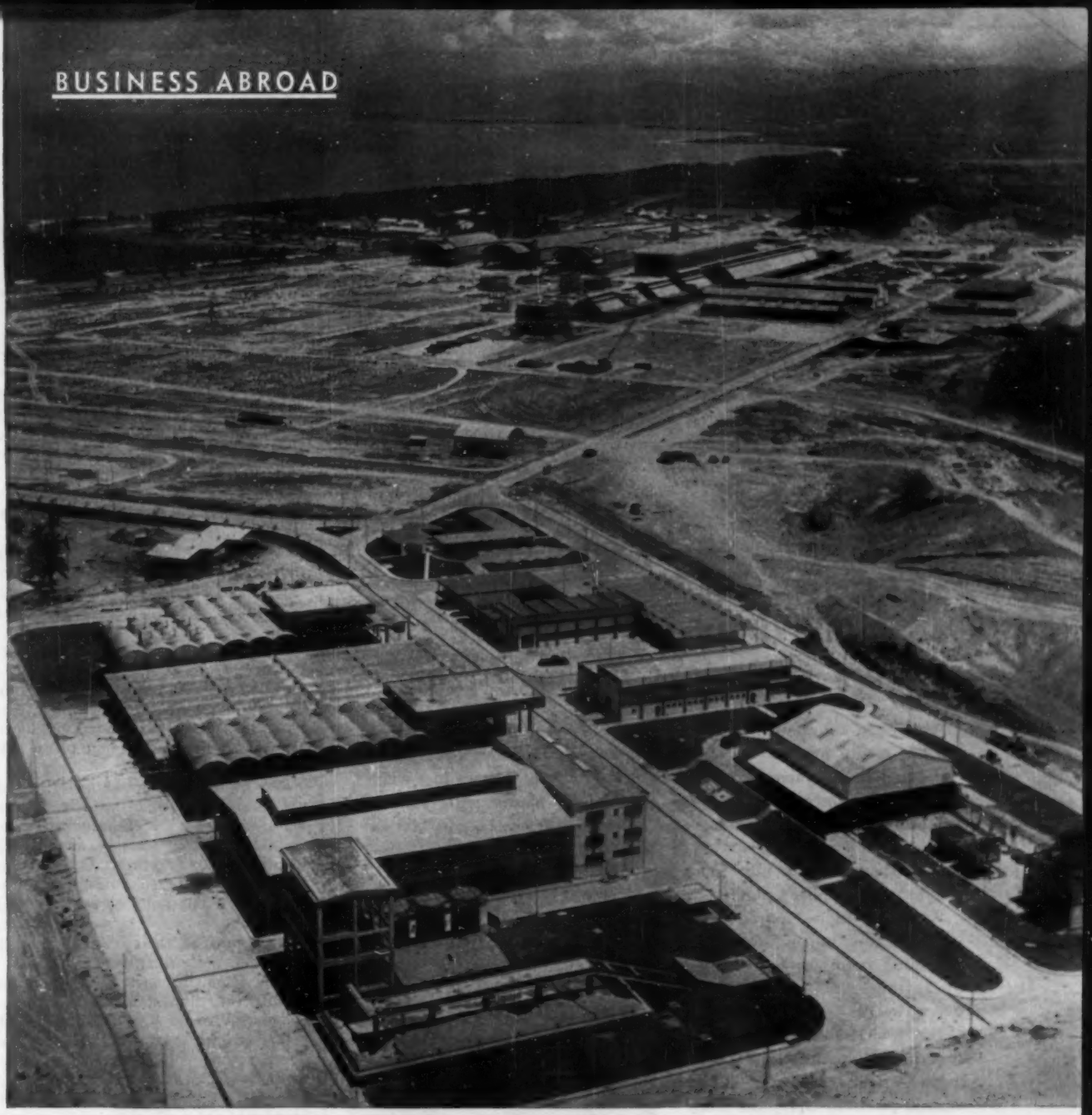


INDUSTRIAL CENTER replaces tiny fishing village of Moron in first stages of $300-million government project as . . .

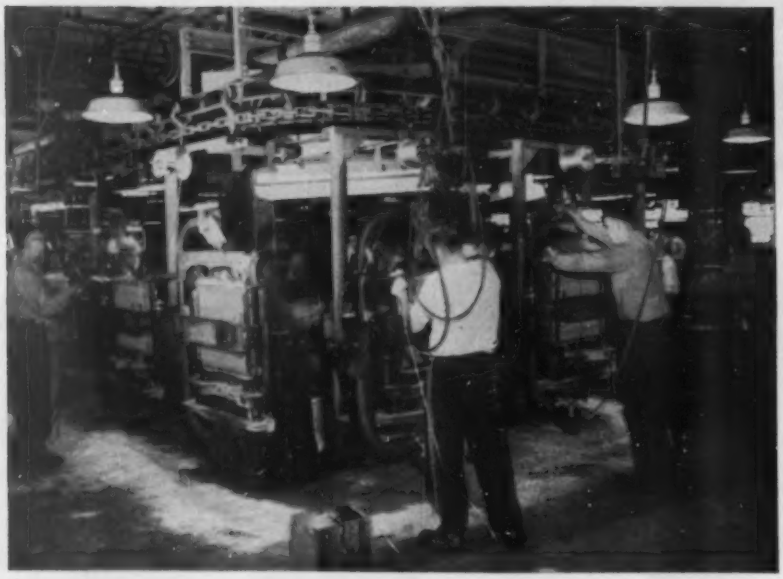
Venezuela Goes Into Chemicals

West of Puerto Cabello—on a tropical strip of Venezuelan coastline (map, page 140)—are rows of planted coconut palms. Sea breezes cool the area. But no one except fishermen lived there until DDT had conquered malaria—a victory that impelled the government to put up the Monument to the Dead Mosquito in the tiny village of Moron.

Now the area around Moron hums with the work of a dozen contractors who employ 3,000 engineers, technicians, and laborers. This is the site (picture) for the first stage of Venezuela's ambitious $300-million program for building a petrochemical industry based on the country's fabulous oil riches.

Next month the government will open the first two units in the program—a U. S.-built oil refinery handling 3,000 bbl. a day and a German-built chloric-soda plant with annual capacity of 10,000 tons of chlorine and 11,200 tons of caustic soda.

• **Only the Beginning**—That's only a starter. Early next year, as part of the first $75-million phase, the government will put into operation a group of synthetic fertilizer plants at Moron designed by Italy's chemical leader, Montecatini. These installations will



Operators need not move from their stations. Each has its own soldering torch. Reel of solder and bottle of flux are on each carrier. (Photos Courtesy Fedders-Quigan Corporation)

MHS Monoveyor makes more room *where there was no more room*

A change in automobile radiator design made production more complicated. An increase in the number of operations and operators seemed to demand more room for the production line.

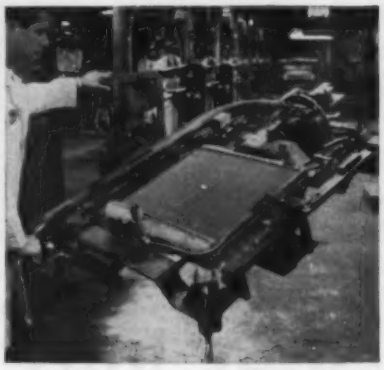
But there wasn't any more room in the supplier's plant!

So MHS designed a production line that is extremely adaptable, providing room for many more operations without increasing overall space.

It's a Monoveyor merry-go-round, with special carriers that index to present the work in any desired position. Operators work on both sides of the line, performing 20 operations in swift succession as the radiator travels the 90-foot circuit in 2¼ minutes.

The installation is so flexible that minor changes will adapt it to meet demands of model redesign.

MHS production systems, specially engineered, have saved time, money and space in a wide variety of plants with similar problems. Check the possibilities for *your* plant with an MHS engineer now.



Close-up of mounting device on carriers. Radiators index to any desired position.

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produce annually between 150,000 and 200,000 tons of nitric acid, sulphuric acid, ammonium nitrate, ammonium sulphate, urea, and superphosphates.

The later stages of Petroquimica—the petrochemical program—will include:

• Construction of plants to make civil and military explosives, insecticides, and herbicides. This second $75-million phase will begin next year.

• Full-scale entrance of the Venezuelan government into oil refining—possibly 200,000 bbl. a day—and production of synthetic rubber, plastics, synthetic fibers, and related products. Work on this $150-million phase will get under way in 1959.

• **No Second Chance**—For U.S. and foreign oil companies, which have a $3-billion stake in Venezuela, Petroquimica raises all sorts of unanswered questions. For one thing, U.S. oilmen have long considered setting up petrochemical plants—but have postponed any sizable investments in petrochemicals because, in their opinion, market demand is not yet big enough.

Now the Venezuelan government has stepped into the picture in a big way. It has put its shoulder behind a vast petrochemical program, financing the development with taxes and royalties paid by such giant oil operators as Creole Petroleum Corp., affiliate of Standard Oil Co. (N. J.), and Cia. Shell de Venezuela, affiliate of the Royal Dutch Shell group.

It may already be too late for the oil companies to move in on petrochemicals—if they have any second thoughts on their earlier decision. Moreover, Petroquimica is putting the Venezuelan government in direct competition with private capital in the transport and processing end of the oil business.

• **Moving In**—Some observers think the government may ultimately move into oil production—an industry that Venezuela has so far left entirely in private hands. Some oilmen pooh-pooh this possibility, citing the fact that

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Order processing time at Reynolds Metals was cut from days to hours by an "automated" Ordermatic Service System. A customer's order received anywhere in the country now can be converted into a written production order at any one of Reynolds' plants and acknowledged in a matter of hours—an operation that once took days.

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DEMPSTER DUMPMASTER

Venezuela in the past year has handed out large new oil concessions to more than 20 oil companies.

Yet one sign of the government's interest in producing oil is its project to revive small-scale output in the abandoned Mene de Acosta field.

• **Industrializing**—In any case, the trend in Venezuela is toward more government investment in all phases of industry. The government is using half of this year's $1.1-billion in taxes and bonuses from oil companies for a wide variety of projects that include steel mills, railroads, a nuclear reactor, dams, superhighways, shipyards, a 58-story skyscraper, a three-mile tunnel, and new facilities at oil-rich Lake Maracaibo.

The government says this forced-draft industrialization is intended not as competition against U.S. and foreign investors but as a stimulus for private plant construction. For instance, Petroquimica will supply much-needed basic materials for new industry. In line with this, General Tire's Venezuelan subsidiary says it will convert to synthetic rubber after the third phase of Petroquimica is completed. Other tire companies are likely to do the same.

• **Political Pitch**—But these vast government outlays also have political overtones. New plants and buildings are the "deeds, not words," that Brig. Gen. Marcos Perez Jimenez, Venezuela's dictator, talks about continually to justify his strongman regime. The new plants at Moron are only two of the many "public works" that Jimenez plans to show off before the elections on Dec. 15.

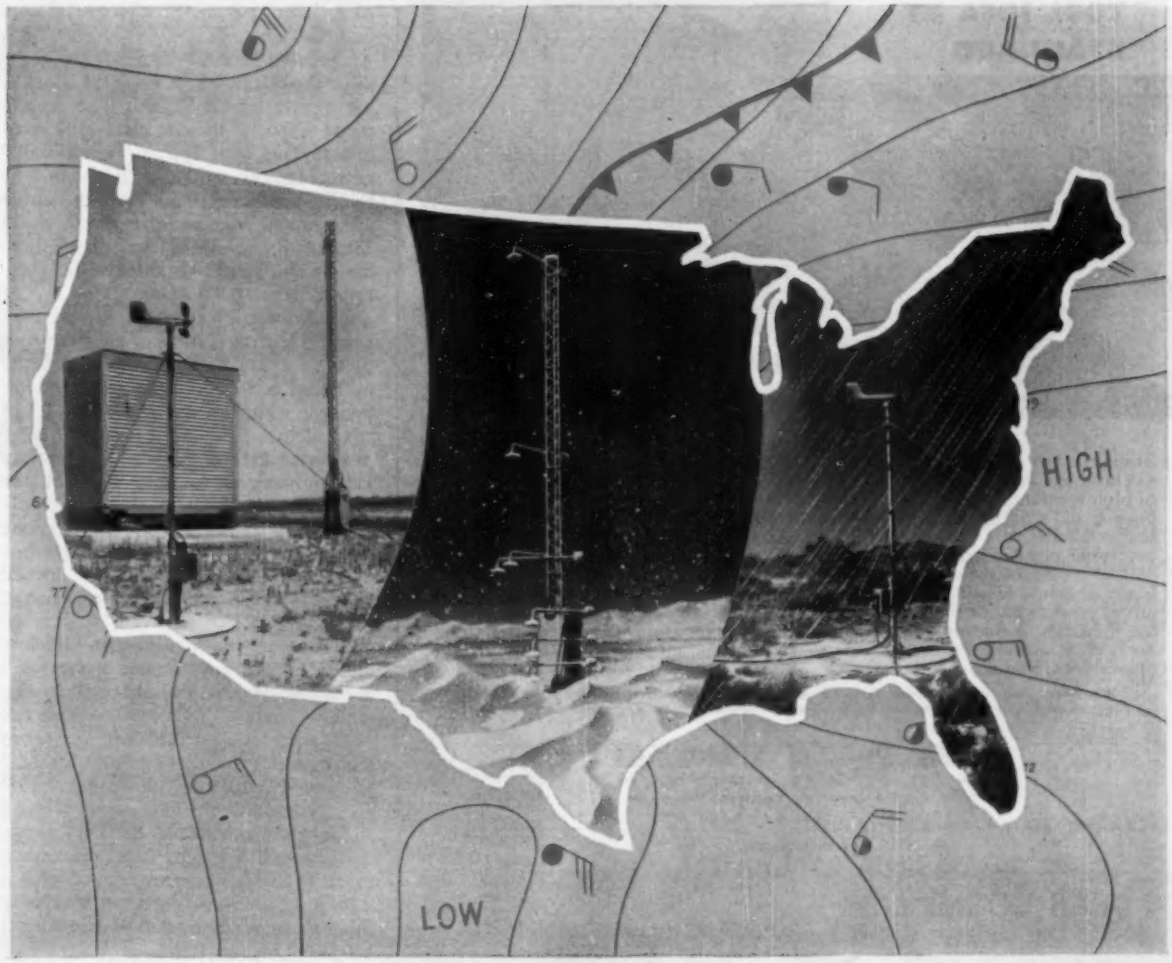
The government set up the Venezuelan Petrochemical Institute (IVP) last year to run Petroquimica.

IVP is fast becoming a catch-all organization for many resources projects. In the past year, it has added coal and mercury mines to its portfolio, and it is now developing deposits of pyrite, phosphate, limestone, and other minerals as well.

• **Foreign Help**—IVP has called on a wide assortment of U.S. and West European companies to build petrochemical plants. Initially, IVP got into business when it took over coordination of the Moron program from Blaw-Knox de Venezuela S.A.

Since then, Frederick Uhde, a subsidiary of I. G. Farben, has installed an $8-million chlor-soda plant. Tifco Inter-America Corp. of Houston has put up the first refinery. Fulghum Contracting Corp. of Harrisburg, Pa.—along with a local firm—is building a 212-mi., 26-in. gas pipeline with 200-million cu. ft. daily capacity to Caracas from the eastern oil and gas fields near Anaco.

Later, Phillips Petroleum Co. will give IVP the production rights and technical assistance for manufacture of Marlex-50, a patented plastic, as part



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Out in the Utah desert Bendix has installed, for the Chemical Corps of the United States Engineers, a completely automatic weather observation system which blankets an area of 400 square miles.

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This is another application of Bendix ELECTRO-SPAN, the digital data transmission system developed by the Bendix Pacific Division, which measures, indicates and controls any remote function. You are invited to write Pacific Division, Bendix Aviation Corporation, North Hollywood, California, for Bulletin ES-1A for full information on ELECTRO-SPAN. Bendix is also the oldest and largest manufacturer of meteorological instruments. Its Bendix-Friez Division, Baltimore, Maryland, has supplied the world's weather bureaus for 82 years.

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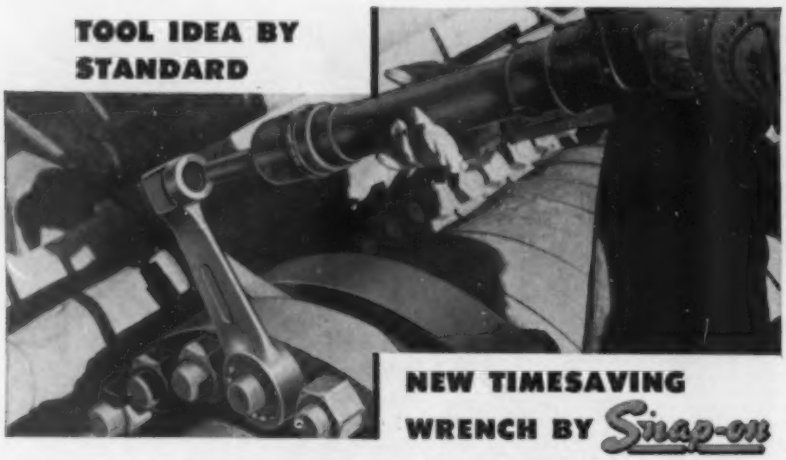
TOOL IDEA BY STANDARD



NEW TIMESAVING WRENCH BY Snap-on

Standard Oil Company of California needed a wrench to tighten bolts to high tensions . . . eliminate safety hazard of striking wrench with a sledge hammer . . . save time . . . overcome close-quarter limitations.

One of Standard's maintenance foremen conceived the idea of using an air-powered wrench. He outlined his thoughts to *Snap-on* sales engineer, W. F. Egbert. From their combined ideas, Standard built working models using regular *Snap-on* sledge wrenches.

Using these models, *Snap-on* made detailed drawings, then furnished the industry's first cupped-slugging wrenches. The striking surface is cupped so that a bull-nosed driver, inserted in an air-powered rivet buster, can impact the wrench from various angles to tighten the nuts. This tool answered all requirements outlined above.

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You can feel the difference the moment you slip them on—*and your employees will, too.* These new work gloves are coated with Edmont's improved Neox (reinforced neoprene) which is as *flexible* as plastic and has much better all-around resistance to cutting, snagging, oil, acids, caustics, solvents. If your plant operations require the complete hand protection which neoprene best provides, it will pay you to investigate *flexible* Neox. Available in many styles, including gauntlets up to 31".

Free Test Offer to Employers: We make over 50 types of work gloves. Send brief description of your operations (materials handled, chemicals involved). Without cost we will recommend correct gloves and send samples for on-the-job testing.

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Edmont
JOB-FITTED GLOVES

Edmont

of its bonus payment for recent oil concessions.

• **Growing Moron**—Already, the fishing village of Moron is being razed to make room for a city of 50,000. The government expects to complete 500 new houses this year for an initial 2,000 petrochemical workers. Back in the foothills, a 100-ft. high earthen dam is going up to store water for industry in Moron. New docks are planned to handle shipments of petrochemical materials.

In the whole area from Moron eastward to Puerto Cabello, new industries such as a $12-million pulp and paper mill and a $150-million, government-financed shipyard are in the midst of construction.

• **Conservation Value**—One purpose of Petroquimica is to halt some of the waste of natural gas in Venezuela's oilfields. IVP is negotiating the purchase of the only sizable commercial gas line in the country—a 150-mi. line owned by VATCORP, a subsidiary of Atlantic Refining Co.

Next year, the Venezuelan Development Corp., a government agency, will begin building a gas distribution system in Caracas. Eventually—if present plans hold up—IVP will supply most of the country's major cities and industrial areas with natural gas through a 1,500-mi. network of pipelines.

The government figures that Petroquimica will help cut back annual imports of $50-million worth of chemicals and also save costs of importing rubber and explosives. More fertilizers for Venezuelan farms should reduce the yearly bill of $130-million for imported foods—around 12% of the country's spending for imports. The fertilizers could also create new surpluses for those farmers who are already plagued by overproduction of sugar and sisal.

• **Market Expands, Too**—Altogether, the government is banking on rapid population growth and rising per-capita income to soak up the projected output of Petroquimica and the industries that spring up around it. Present population of 6-million is expected to reach 10-million by 1970. Per-capita income—now $600 a year, the highest of any Latin country—is also rising fast. Yet, at the moment, Venezuela can absorb less than half of the projected output of the plants at Moron alone.

To help create a market, IVP last year started promoting the use of fertilizers among the country's farmers. So far, this has doubled fertilizer consumption to 40,000 tons annually. In addition, Venezuela hopes to export petrochemicals at competitive prices throughout Latin America. IVP says it already has tentative orders for 100,000 tons of fertilizer from one country. **END**

General Electric says:

"G-E Lamp users will keep getting more and more light . . . without adding fixtures or increasing lamps."

L. E. Wilson, plant engineer, says:

"G-E Lamps gave our plant a light level of 23 footcandles in 1943. By 1950 it was 30. Today it's 40! And we're using the same number of fixtures, the same number of G-E Lamps!"

"G-E Lamps have kept this lighting installation up to date at no extra cost," says L. E. Wilson of Cleveland Graphite Bronze Company (division of Clevite Corporation.) William Bode (right), utilities engineer, checks light level with H. D. Hanson, safety director.

ONE of the surest ways to get full value for all your lighting costs is to use G-E Lamps *exclusively*. Then you know the lamps you are using are keeping your lighting system up to date because they contain the latest lamp improvements from General Electric research. Customers who have used the G-E 40-watt fluorescent lamp, for instance, are getting 30% more light today than they did in 1950—from the same fixtures, the same wattage. Across the board, today's G-E Lamps give you more for all your lighting costs. General Electric Co., Large Lamp Dept. BW-117, Nela Park, Cleveland 12, Ohio.

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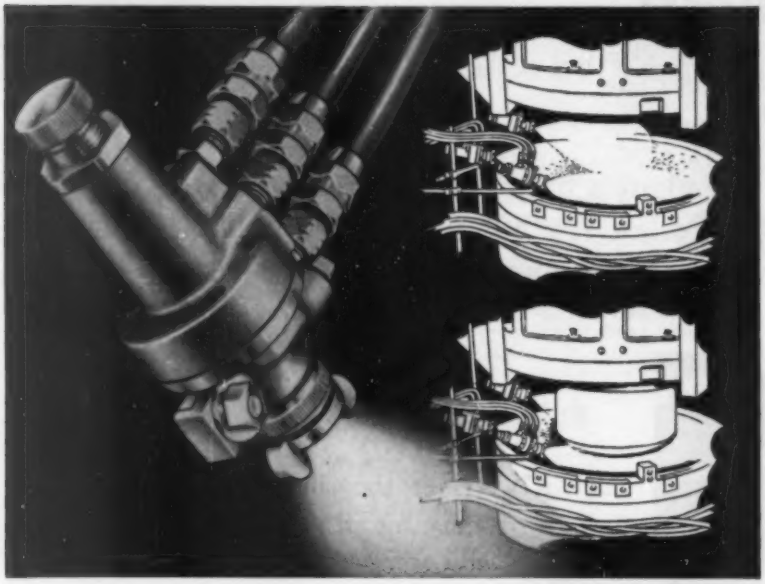

***Split-second timing.** DeVilbiss WDB automatic guns spray exact amounts of drawing compound evenly over specific areas of die, as it opens and closes. To synchronize spray with press cycle, cam-actuated air valve is worked off the ram. In other instances, a solenoid air valve is actuated by chain-drive timer, operating off gear wheel.*

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Moscow's Debts

U.S. investor sues New York bank as depository of Soviet funds in effort to recover on defaulted notes.

Last week a New Rochelle (N.Y.) investor brought a legal action jointly with the sheriff of New York County against the Chase Manhattan Bank as a depository for Soviet Funds in the U.S. Mrs. Elizabeth R. Weilamann and her attorneys, Delson, Levin & Gordon, a Manhattan firm specializing in international accounts, seek to recover payment for defaulted notes issued by the Soviet government in the 1930s.

The case is a test of many aspects of international law. Chase Manhattan has not yet indicated how to answer the action. Nor have the New York attorneys for the Russian government taken any action. The State Dept., which is likely to be called in somewhere along the way, last week had not been officially alerted to the action.

• **Mining Equipment**–Mrs. Weilamann is seeking payment from the Moscow government for notes that she purchased through a broker in 1935 and 1936. The notes, payable in pound sterling and issued at a 7% discount, were payment by the Soviets to two British companies for mining equipment on concessions in Siberia that the Soviets terminated. Principal and interest on the notes were paid on a semi-annual basis until 1940. The Russians have never said so, but the assumption is that they stopped making payment then because the British and American governments refused to recognize Moscow's seizure of the three Baltic republics, Latvia, Lithuania, and Estonia. The assets of these states in Britain and the U.S. were automatically frozen and as yet have not been released.

It's estimated in London that a balance owed on notes given to the Tetuihe Mining Co. Ltd. is about $1.8-million in sterling and to the Lena Goldfields Ltd. is approximately $7.8-million in sterling. Mrs. Weilamann holds notes issued to the Tetuihe Mining Co. Ltd.

In the spring of 1955, Mrs. Weilamann started a suit in New York courts and won by a default judgment, attaching funds of the Russians in three New York banks where they have current accounts. The current suit is "in aid of" the attachment and requires that the bank–the Chase alone is named in the present action–turn over the money to the sheriff.

• **Sovereignty**–In the past, the State

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they made this hollow float leak-proof, tough, and color-fast!

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A vinyl plastisol, rotationally molded, produced the one-piece swimming float above. It won't sink—it won't rot—and its brilliant colors remain true forever!

Molding vinyl plastisols—by slush or rotational methods—produces a host of hollow products, from dolls' heads to rain boots. Reproduction of detail is excellent. Color choice is unlimited and permanent. Vinyl plastisols also make tough flexible coatings—fused to metals before or after forming, or coated on fabrics or paper for luggage, wall and floor coverings. And the finish can be smooth, textured or embossed! Vinyl plastisols become permanent sealants, sound-proofing. Foamed vinyl plastisols are in demand for insulation, upholstery.

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Make sure you get all these qualities in your letterheads. Specify Hammermill Bond. Hammermill Paper Company, Erie, Pennsylvania.

Printers everywhere use Hammermill papers. Many display this shield.

For better letterheads ask your printer for

HAMMERMILL BOND

with Neutracel's finer fibers

"... so far the Russians have refused to negotiate ..."

STORY starts on p. 146

Dept.—when requested to intervene by foreign governments—has taken the position that they are sovereign and, therefore, immune to action by U.S. citizens in American courts. However, in 1952, the State Dept. enunciated a new "doctrine." In substance, it holds that a foreign government can be sued in a U.S. court if the action concerns "private acts"—that is, cases concerning real property. This new policy was recommended by State's acting legal adviser Jack B. Tate.

Actually, as Tate pointed out, most European governments now take this same attitude toward the problem. Since the Tate statement the State Dept. has been called in on three cases. However, none of these closely paralleled the present case. And Tate admitted that both theories—the right of a sovereign country's absolute immunity or its right to only partial immunity in another country's courts—are widely held.

The Weilamann case is complicated by several other aspects. The notes were issued by the Soviet government but, theoretically at least, the New York bank accounts of the Russians are held in the name of the State Bank of the Soviet Union. Mrs. Weilamann's attorneys charge that in the case of the Soviet Union where the central bank has no real separate identity from the government, this is a false issue. They also deny that the policies of London or Washington toward seizure of the Baltic states should have anything to do with the notes, a private transaction.

• **Refusal to Deal**—No estimate is available as to how many other holders of either Tetuihe or Lena Goldfields notes there are in the U.S. Most are believed to be still in British hands, and last year the British ambassador in Moscow made another attempt to get a settlement. So far the Russians have refused to negotiate.

Moscow's refusal to deal with the matter is in striking contrast to its 1948 settlement with Soviet bond holders in this country. Then, after a five year interregnum because of war, it redeemed 10-year bonds issued in 1933 on their original gold terms. That meant, because of the U.S. devaluation of the dollar which followed their issuance, that the American holder received $166 for each $100 of book value. The Russians, of course, have continued to refuse to honor the imperial bonds issued under the Czarist government and held by Europeans and Americans (BW—Nov.6'54,p108). END

Courtesy of The Johnson Wire Works Co. Ltd., Montreal

"Paper was so scarce it was a crime!"

Once paper was made by hand . . . a process about as slow as making waffles. It was a punishable crime in England to make newspapers larger than 22 x 32 inches! Then, in 1798, Nicholas-Louis Robert invented the paper-making machine shown above. The Fourdrinier brothers perfected it—and the "wet end" of modern paper machines still bears their name.

The first paper machine made 35 feet of 30-inch paper a minute. Today's multi-million dollar paper machines turn out over 2000 feet a minute—in widths up to 300 inches! To produce 42 million tons of paper each year at these phenomenal speeds, American and Canadian paper mills must rely on precise and continuous control. This is Taylor's field.

There is a Taylor Instrument or Control System for every step in paper-making where control counts . . . from wood pulp grinding to drying and finishing.

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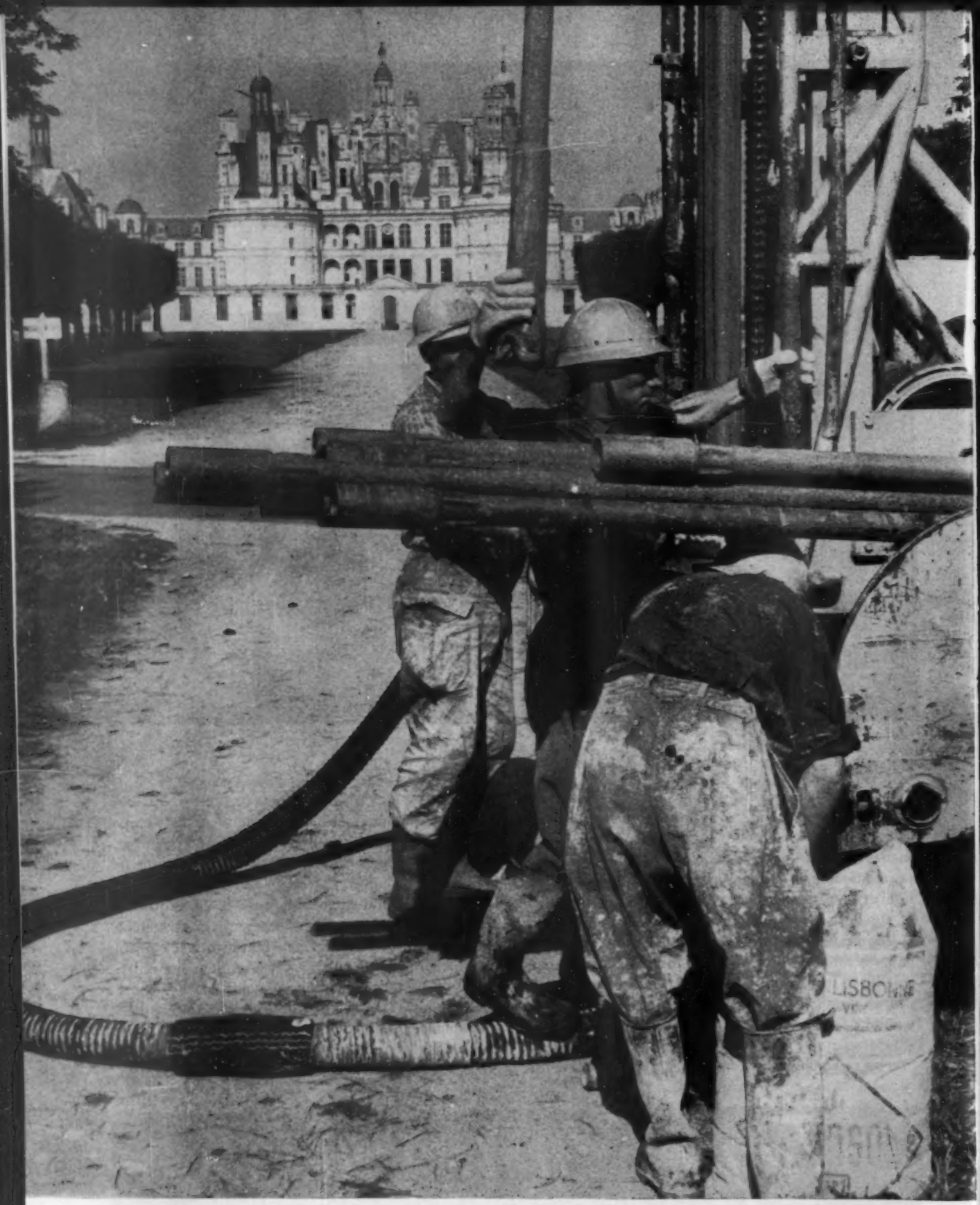

IN THE LOIRE, Renaissance and 20th Century clash near Chateau of Chambord as Fropex seismic crew readies derrick for oil tests.

Texas-Type Oil Rush—in France

When a Jersey Standard subsidiary made a rich strike, the scramble started. Now they're oil prospecting amid chateaux.

Last week tourists who came to gape at the Renaissance chateau of Chambord on France's Loire River had a surprise (picture, left). Petroleum seismic crews were at work down the road.

This crew—and others like it—is hopefully scouring the Loire country on behalf of a Franco-American oil combine, Fropex. If they find subsoil structures that indicates there might be oil, the company will cross its fingers and drill a wildcat well. Derricks may soon be elbowing into the peaceful landscape where lusty King Francis I once hunted.

There are similar goings-on in other French tourist areas. Seismic crews have invaded the Roman ruins of Provence, the vineyards of Burgundy, the orchards of Normandy, and the hop fields of Alsace. Oil companies once scoffed at oil in France, but they changed their minds in 1954, when Jersey Standard's French subsidiary, Esso-Standard, struck oil at Parentis, in southwestern France (picture, right). Since then, the French government has cheered them on. Every drop of oil found in metropolitan France is a help to the foreign payments problem, much of which stems from the huge sums spent on Middle East oil.

• **Operators**—Several Franco-American groups have joined in the oil rush:

• Fropex, prospecting in the Loire, is an abbreviation for Societe France Outre-Mer de Prospections et Exploitations Petrolieres. It is jointly owned by Compagnie d'Exploration Petroliere, the Texas Co., and Standard Oil of California.

• Socony-Mobil is drilling near Paris jointly with a French company.

• A Texas independent, D. D. Feldman of Dallas, is prospecting two areas, in the Jura Mountains and Provence, with a French partner.

All these operators hope they will be as lucky as Esso at Parentis, where an area nobody else wanted is now producing 1-million tons a year—about three-quarters of all the oil produced in France. The Parentis find was followed by a major gas strike at Lacq, also in the southwest. These two discoveries brought a flock of applications for government exploration permits. French companies were formed to look for oil, and capital began to come out of the mattresses. A few months ago, small investors queued all night outside Paris banks to plunk down their francs for a few shares of stock in an oil outfit.

The excitement is such that a small area in the southwest where a permit recently expired is about to be divided among nine bidding companies—including such international giants as Esso, Mobil, and British Petroleum.

• **Changed Mood**—This is quite a change from only three years ago, when the French government was making only a few halfhearted attempts to find oil. But, like prospecting everywhere, it's still a big gamble. Fropex figures it will have to spend several hundred thousand dollars to drill each wildcat well, plus heavy contractors' fees for preliminary work. And observers think the company's chances, once it decides to drill, are about 15 to 1.

IN SOUTHWEST FRANCE, Esso-Standard now gets 1-million tons of oil a year from Parentis field, with wells drilled into lake bottom. Drilling area is south of Bordeaux.

In Business Abroad

• • •

U. S., Russia Start Lengthy Dicker To Amplify Exchange of Data, Visits

The U.S. and Russia began extended negotiations last week to set up a new East-West exchange program.

Russian Ambassador Georgi Zaroubin handed William Lacy—who handles the U.S. end with the rank of ambassador—a list of 52 fields, including atomic energy, chemical processes, and auto production, in which Russia would like to see a greater interchange of information. **Zaroubin is also shooting for an agreement permitting visits here by Russian delegations that would last as long as six months instead of a few weeks.**

Lacy hopes to set up an exchange of uncensored radio and TV programs. This would be a followup to the appearance of Nikita Khrushchev, Communist Party boss, on CBS' Face the Nation late last spring.

One thing that has improved the atmosphere for the negotiations is Washington's lifting of the fingerprint requirement for Russian visitors.

• • •

U. S. Travel to France Off Steeply— Suez, Hotel Shortage, High Prices Blamed

French tourist officials, dropping their optimism of last summer (BW—Jul.20'57,p128), now admit there has been a fall-off in U.S. tourism this year. During the first nine months—the boom season—the number of American visitors skidded 21% below 1956 levels.

French officials blame the Suez crisis and the uprising in Hungary. But travel agents say the downturn stems from lack of hotel space and France's spiraling prices. Even wine—which is like milk to a Frenchman—has been going up in price. Two weeks ago the government announced plans for big wine imports from six countries to help batter down the price of domestic wine.

Still, it is felt that the recent devaluation of the franc should brighten the tourist picture.

• • •

U. S. Banks Are Skeptical of Argentina, So Westinghouse Loses Power Plant Job

Westinghouse Electric International Co. got caught in the crossfire of unsettled Argentine-U.S. relations last week when it lost a $98-million contract for a new Buenos Aires power plant.

Westinghouse was low bidder. But it couldn't get adequate financing. Both private U.S. banks and the Ex-Im Bank indicated they were refusing to put up money because of Argentina's failure to compensate American & Foreign Power Co. for properties nationalized by ex-Dictator Peron.

Westinghouse's loss—as it turned out—is Britain's gain. Argentina has awarded the new power-plant contract to a group made up of British Thomson-Houston, Metropolitan Vickers, and International Combustion Ltd. Baring Bros., the London financial house, readily applied a promised credit of $70-million to help swing the deal.

• • •

Russia to Make a Luxury Auto, Bedraped With Every Capitalist Joy

Russia's race with U.S. technology is on the ground—as well as in orbits overhead. Moscow has announced its Lichatschov plant will soon begin production of a new passenger car, the Zil III. It's a seven-seater with a 200-hp. engine, automatic fluid drive, tubeless tires, push-button windows, air-conditioning, and a radio controlled from both front and back seats. Though the price hasn't been announced, Zil III is presumably for high officials—and not workers.

• • •

Trade With Red China Will Grow Slowly and Steadily, Says British Aide

The parliamentary secretary of Britain's Board of Trade—back in Hong Kong after 27 days in Communist China—expects a "steady and worthwhile growth" in two-way trade with Peking. He does not expect "any sudden or spectacular increase" because the Red Chinese are "cautious buyers."

F. J. Erroll, the British representative, says China plans to produce 80% of its machine tools next year. **The imports Peking is most interested in are machines and industrial raw materials, with emphasis on agricultural implements for small farms.** The question mark is how Peking can pay for these. Food rationing in China has helped agricultural exports. But any further rationing to boost farm exports doesn't look politically possible—Erroll says.

• • •

U. S. Exports to Latin America Zoom, But Imports Merely Creep Up

U.S. companies did a boom business with Latin American countries during the first half of this year—according to latest Commerce Dept. statistics. Exports for the six-month period amounted to $2.3-billion, or 21% above last year's six-month level. Venezuela (page 139) pushed past Mexico to become the No. 1 market in the area for U.S. goods. **In addition, direct private investment in Latin manufacturing and mining rose sharply in Brazil, Mexico, Peru, Chile, and Cuba.**

However, U.S. imports from Latin America were a mere 1% ahead of 1956 in the six-month period. The nearly $400-million trade deficit has forced many Latin countries to draw down their gold and dollar reserves.

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Home Lifelines, the pipes that carry water and dispose of waste . . . work most efficiently, for a longer period of time, when they're copper. Of all metals, copper best combines high resistance to corrosion with durability. Copper water and drainage tube lasts and lasts . . . never clogs with rust. No other metal piping can be installed as quickly and easily as copper tube. In fact, today, a quality plumbing system of copper can cost the homeowner less than one made with any other type of metal!

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NEW TILT CAB TRUCKS . . . lowest priced* tilt cab line in America! Six new series, up to 60,000-lb. GCW, are typical of the wide choice in Ford's heavy-duty line.

NEW 58 FORD PICKUP . . . Modern Styleside body is as wide as the cab and standard at no extra cost!

(Background) NEW TANDEM—powered by a new, more durable "332" cu. in. V-8.

Step ahead....with all

Meet America's newest, most modern trucks—Ford for 58! Discover the important advantages that help you do your job better and at lower cost!

Then match your specific requirements against Ford's over 300 new models. Whatever your need—from half-ton pickup to heavy-duty tandem—Ford's got it! And *you'll* get a truck that costs you less to own, less to run and lasts longer, too.

So see your Ford dealer today and step ahead with America's most modern truck—built modern to cost you less.

***NEW* capacity! New savings!** Extra-wide Styleside Pickup bodies (standard at no extra cost) have up to 41% more load space than competitive pickups!

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***NEW* comfort!** "Driverized" cabs have woven plastic upholstery, non-sag seat springing, suspended

'58 FORD TRUCKS - FIRST WITH THE FEATURES THAT COUNT!

FORD TRUCKS

that's new...costs less, too!

pedals, weather-protected inboard steps.

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***NEW* "fine car" conveniences!** Ranchero offers all power assists factory-installed at low prices.

***NEW* Tilt Cab saving!** America's lowest priced* Tilt Cab line . . . hundreds of dollars less!

*Based on a comparison of factory-suggested list prices.

The big fleets buy more Ford Trucks than any other make!

FORD TRUCKS COST LESS

LESS TO OWN . . . LESS TO RUN . . . LAST LONGER, TOO!

The American Market: a Look Ahead

Quick pickup perks up sales

Today's busy self-service shopper likes her soft fruits "ready to go" . . . *doesn't* like waiting to have them weighed, sacked up, marked for price.

With Stackit—another packaging first for Marathon—she gets what she wants: fresh fruit "grouped" into easy-to-pick-up packages that take plums, peaches, cherries and grapes out of the handle-with-care class.

Small wonder that consumer preference for prepackaged produce is phenomenal. In 1950 only 5% of all fresh fruits and vegetables were in packages. Last year the figure approached 25%. By 1960 fully half of all fresh produce will be in packages.

Marathon pioneered this growth—which is one reason why Marathon is America's largest supplier of food packaging. Another reason: Marathon maintains complete control of every step in packaging production—from the tree to the finished product.

MARATHON CORPORATION

Menasha, Wisconsin

In Canada: Marathon Packages Limited, Toronto

Things look bright where MARATHON goes to market

INTERNATIONAL OUTLOOK

BUSINESS WEEK
NOV. 9, 1957

Western leaders are facing up to the new international situation created by Russia's rocket lead.

You could see the change this week in Pres. Eisenhower's address to the nation and in Secy. of State Dulles' press conference. British Prime Minister Macmillan told Parliament that the threat of Communism never has been greater.

However, the tough decisions still have to be taken in Washington—on how much our defense spending should be increased; on how far we can go with a NATO military pool. It will be decisions like these that will really count. Unless Washington comes through, Pres. Eisenhower's trip to Paris next month will do little to strengthen the Atlantic Alliance.

Neither Washington nor London is taking seriously Nikita Khrushchev's new bid for summit talks. The bid was only one small point in the arrogant anniversary speech Khrushchev made Wednesday to the Supreme Soviet (page 28). Pretty clearly it was just one more gambit in the razzle-dazzle diplomacy that Khrushchev has planned for the months ahead.

It looks as if Khrushchev will concentrate Soviet attention on three issues: disarmament, Berlin, and the Middle East.

Soviet disarmament policy has all the aspects of a runaround.

This week Moscow pulled out of the United Nations disarmament committee, suggested that the whole Assembly take up the subject. At the same time, the Russians are telling both the U. S. and its allies that they are ready for bilateral talks, on the one hand, and for regional talks, on the other. If the U. S., or Western Europe, were to agree to separate talks, you could kiss goodbye to NATO.

In Berlin, the Communists seem to be preparing for another blockade. And today they have two advantages they lacked in 1949. They have an East German military force to act as a proxy army for Moscow and there is a serious deterioration in the fighting spirit of the West Berliners.

In the Middle East, the Russians seem to have Syria completely in the bag. Now they are shifting their attention to Jordan—aiming at destruction of the Hussein regime. **If Jordan goes, Israel will be in a real jam.** War might seem the only way out for the Israelis—war or a big power guarantee of its borders, with Russia as one of the guarantors.

—•—

France's man of the hour is 38-year-old Felix Gaillard. He has ended the longest postwar cabinet crisis in Paris by winning Assembly approval for a broad coalition cabinet. It ranges from the Socialists on the left to the right-wing Independents.

As Premier, Gaillard will have to deal with the worst accumulation of problems France has faced since the end of World War II. The biggest are inflation, a mounting trade deficit, and the Algerian rebellion.

Unless time has changed the minds of French deputies, Gaillard will run into many of the same political obstacles as his predecessors. He plans big, new taxes—the kind that defeated Guy Mollet's government last May. He expects to reintroduce the liberal law on Algeria that brought down the recent Bourges-Maunoury government, in which Gaillard himself served

as finance minister. He may push constitutional reforms to help stabilize the French government—though proposals of this sort have never met with much success.

But observers believe Gaillard's cabinet is a good enough compromise with France's many political factions to guarantee some backing for his program. And Gaillard already has the reputation of a troubleshooter who is not afraid of trying to make "austerity" work in France.

—•—

Britain's Conservative government shows every sign of sticking to its guns on the wage issue (BW—Oct.5'57,p86). Both Chancellor Peter Thorneycroft and Labor Minister Ian MacLeod are insisting that the government will "not finance wage increases."

The first clash will come in London. **Rail and bus employees working for the state-owned Transport Commission threaten strikes if they don't get increases.** Commission Chmn. Sir Brian Robertson has been publicly warned that the Treasury will make no advances for his working capital to help him carry higher wage costs.

Macmillan believes his government has no choice, that a round of wage increases would price Britain's exports out of world markets and shake confidence in sterling. Macmillan would rather ride out a wave of strikes.

Macmillan counts on several things to help him avoid an all-out showdown with Labor. There's a growing public hostility to the unions, according to Gallup polls. Strike funds of all the unions except the mine workers are low. Finally, most trade union leaders have expressed moderate views privately.

—•—

The first top-level meetings on the problems of merging a European Free Trade Area and the Common Market started this week in the Organization for European Economic Cooperation.

The big economic problems have already been thrashed about by a group of experts from the leading powers. Now the political problems will be tackled—by Britain's Reginald Maulding, West Germany's Ludwig Erhard, and France's Maurice Faure.

Erhard has a particularly important role to play. Since last month's election in West Germany, Erhard has taken a pre-eminent place in economic affairs at Bonn. And he favors bringing Britain into closer economic cooperation with the Common Market.

—•—

Britain's growing fear about the insecurity of Middle East oil has touched off a decision to speed plans for developing the Athabasca tar sands of northern Alberta and Saskatchewan. A joint study group of Whitehall officials and British oil company men has been at work on the project for some time.

Both Shell and British Petroleum—through its subsidiary, Trinidad Oil—have options in the huge area where oil reserves are known to exist. London hears that Royalite Oil Co.—which announced a $50-million development plan early this year—has come near solving the technical problem of economically separating oil from sand.

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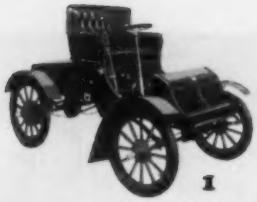
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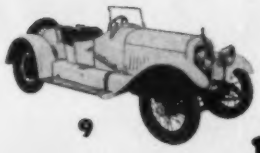
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(A) how many of these famous old cars can you name?

8

3

(B) WHAT DID THEY ALL HAVE IN COMMON?

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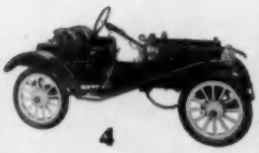
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5

the correct answer to (B) *is:* **Thompson parts!**

THOMPSON PRODUCTS has been making quality engine and chassis parts ever since the turn of the century. Below are some of the improvements (each quite revolutionary) Thompson has contributed towards greater safety, power, economy and driving pleasure over the years:

1904—*Valve with nickel steel head welded to carbon steel stem* • **1914**—*One-piece solid forged valve* • **1916**—*Tubular steering parts* • **1921**—*Silcrome heat-resistant valve* • **1926**—*Eccentric tie rod for 4-wheel brake and balloon-tired cars* • **1932**—*Wedge-action valve retainer lock* • **1933**—*Duracrome valve seat insert* • **1935**—*Dual-bearing tie rod for knee-action steering* • **1938**—*Rotovalve—release-type valve rotator* • **1946**—*Rotocap—positive-type valve rotator* • **1952**—*Front suspension ball joint* • **1954**—*Rotocoil valve rotator* • **1955**—*TPN piston ring.*

To those you can add scores of other important improvements in valves, pistons, piston rings, valve seat inserts, cylinder sleeves, steering and front end assemblies, and power-steering pumps. Thompson engineers and metallurgists work closely with leading automotive and aircraft manufacturers to develop better parts. Thompson specializes in solving hard-to-solve problems . . . and in producing hard-to-make parts for *all* industry. If you're a manufacturer, *what's your problem?* Write: Thompson Products, Inc., General Offices, Cleveland 17, Ohio.

The correct answers to (A) above are: 1—American (1902); 2—Brush Runabout (1908); 3—Maxwell (1909); 4—Hupmobile (1909); 5—Stevens-Duryea (1909); 6—Ford (1906); 7—Stutz (1914); 8—Abbott-Detroit (1917); 9—Mercer (1919); 10—Templar (1922). If you got *two* you're better than average. If you got *all* ten, our hat's off to a rare expert!

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ATTENTION, ENGINEERS! Contact us about joining our company, which has contributed importantly to the development of the airplane as well as the automobile, since their early days. We are now also expanding in the fields of electronics, hydraulics, pneumatics, nuclear energy and general industry. Write Ray Stanish, Manager, Central Staff Placement, Thompson Products, Inc., Cleveland 14, Ohio. Phone: MAin 1-7943.

Here's one reason coal mining is increasing its efficiency at a rate of 10% yearly, compared with a 3.5% all-industry average. One mining company ordered four large (55-70 cu. yd.) power shovels last year. Cost: $2½-$3 million each.

MINING IS BIG

and spending steadily for expansion

Already big, healthy and booming, mining is investing even more today to meet rising demands.

Look at some typical figures:

1. Among 14 producers of one million or more tons of coal annually, new mines involving $150,000,000 in capital expenditures are under development or active consideration at this moment.

2. During the first 9 months of 1957, new projects announced in metallic and nonmetallic mining totalled *over $1,000,000,000.*

3. Coal mining buys an estimated 75,980,000 feet of electric wire and cable each year.

4. A survey of 41 coal mining companies reported 1956 purchases of conveyor belting totalling 510,337 feet—worth about $7½ million. *Over 60%* of this was for new installations.

5. Automation is growing: a U. S. Bureau of Mines survey of 678 coal mines shows 10,325,337 gallons of hydraulic fluids consumed annually. This equals one gallon for every 28.27 tons mined.

6. A group of base-metal mines producing 6 million tons of ore reported the following expenditures last year: $121,000 for pumps and pump parts; $36,500 for circuit breakers; $215,000 for lubricants; $303,000 for steel pipe; $252,000 for drills and drill bits.

Add it all up and there's just one answer: Mining, sparked by automation, is a *growing market* few companies can afford to ignore. If what you make handles or moves ores, coal or other minerals above or below ground; if it cleans, concentrates, processes, smelts or refines; if it automates, controls or saves labor on handling or processing—mining is the BIG market to investigate now. For further information on ways your company can meet this challenge, write to:

Director of Market Research
McGraw-Hill Mining Publications
330 West 42nd Street, New York 36, N. Y.

on company letterhead, requesting booklets of data on mining or coal mining; or, ask for a representative to call with this material.

ENGINEERING AND MINING JOURNAL **COAL AGE**

Serving the Mining Industries

McGRAW-HILL PUBLICATIONS, 330 West 42nd Street, New York 36, N. Y.

LABOR

Rumblings Begin in Steel

● The industry's three-year labor contract is only half run, but it's evident already that the 1959 bargaining on wages and other issues will be tough.

● The industry will be under extreme pressure to hold costs, the union irritated and pressed by UAW competition for labor bargaining leadership.

● And there will be new men on industry's bargaining team, new political factors on the union side.

The sharp climb of the government's Consumer Price Index during 1957 has had an important effect on the steel industry's labor contracts negotiated in mid-1956. It has made them more costly and less predictable than the industry negotiators expected at the time.

If the government's measure of living costs remains unchanged at its level of 121.1% of 1947-49 average costs, steelmakers will owe their half-million employees a 4¢ an hour pay adjustment on Jan. 1. Added to two during 1957, the total c-of-l stepup will be 11¢ an hour since steel contracts were signed.

• **Extended Peace**—In the 1956 negotiations, the steel industry took a strike on the issue of a long-term contract with annual increases in labor costs fixed in advance; its goal was extended labor peace. Also, it wanted a long period of stability in which it could close the gap between annual cost increases and production increases—by means of better labor relations, improved machinery, better methods, and unbroken production. The three-year, nonreopenable, no-strike contract that ended the national steel tieup was hailed by the industry as a long step toward such a goal.

Unquestionably, it has been—and will be. But, the behavior of the Bureau of Labor Statistics' CPI has disappointed steel employers. Their labor costs have risen faster and higher than they expected.

• **Sights Too Low**—Any employer who has accepted a c-of-l clause in a long-term contract in recent bargaining years has recognized the probability of future wage adjustments to higher prices. Obviously, steel negotiators did, too. Although the expected "escalator" increases weren't taken into consideration in figuring an anticipated 57½¢ "package" cost for the steel contracts over their full three-year period, nobody in steel management offices expected to get by without an additional upward jogging from the c-of-l adjustments.

But they didn't expect that the pressure would be as hard:

• On Jan. 1, 1957, a half-year after steel pacts were signed, companies had to boost "escalator" pay 3¢ an hour; spokesmen frankly admitted this was more than expected.

• On July 1, companies had to add another 4¢ c-of-l boost to wages, already due to go up an average 10.4¢ an hour—an automatic 7¢ increase in the base rate plus 0.2¢ more in the increments between job classifications. The average, c-of-l adjustment and direct wage boost included, was a stiff 14.4¢ an hour.

• And on the basis of the present record CPI, another 4¢ c-of-l adjustment is due Jan 1.

In wages alone, not counting in other cost-lifting items due in 1957 under last year's steel contracts, the industry's "predictable" 10.4¢ an hour increase for this year and the first half of 1958 is therefore overshadowed by an unexpectedly steep 21.4¢ cost. Nobody in steel management offices cares to say just how much of the c-of-l over-rider on wages was allowed for in advance planning based on 1957 cost predictions. It's a good guess that a substantial part of it was not, and that the movement of the government price index has made the steel industry's costs much less predictable than it hoped in the flush of satisfaction after contracts were signed in 1956.

That's the newest problem, but it isn't the only one cluttering steel's management-labor relations horizon. With 20 months to go before a new contract must be agreed on, quite a few thorny worries are visible.

I. The Battle Over Costs

Unless the steelmakers are ready to abdicate control of their operating lives, they'll have to regain control of their costs. That will not be easy in 1959.

Steelmakers believe implicitly that the United Steelworkers of America—by boosting total employment costs faster than productivity has been raised—is one of the sources of the inflation that has been hurting steel and other industries.

The USW, in turn, won't—and for that matter can't—abide any charge that it is responsible for the wage-price spiral in steel.

• **Ruffled Feathers**—Both sides have been making charges and countercharges—often and in hard-boiled language. There's no evidence that either has accomplished more than to raise the other's blood pressure.

That's one area of distemper in which a new steel contract will have to be bargained out. Here's another that's even tougher.

• **Economics**—In the first half of 1959, steel ought to be operating at a pretty good level. Steel users then will have been living on low inventories—and buying for production only, since steel is so easily available—for a year and a half. Only six months ahead will be the plain possibility of a steel strike. Hence, regardless of where business is—and particularly if business is rising—they'll be buying steel briskly.

Steel earnings will be rising then, too. By that time steel will have worked off most of its accelerated amortization. Dollars that have been charged off as expense will then be going on down into operating profit.

Those dollars, of course, will be taxed at 52%. So steel's financial men foresee a cash shortage at the same time they see improved earnings—because money that was staying untaxed in the cash drawer will then be flowing out—half of it to Washington in taxes and half the remainder to owners in dividends.

• **Further Snarls**—This anomaly—a cash shortage in a period of brisk business and improved earnings—is all you need to predict that steel bargaining, 19 months hence, will be intense. But you must add a couple more factors:

• It will be the first bargaining in almost three years, an unprecedented thing in steel. That will mean an accumulation of irritations to be settled, and it will yield quite a crop of new ideas and programs to be bargained out—some way of tying wages to productivity, for one.

• The USW's great rival, the United Auto Workers, will have set some sort of a pattern a year earlier, in 1958. So USW will feel quite an urge to catch up to—and surpass—what-

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ever it is that UAW wrings out of Detroit next spring.

All these things being so plain, it isn't surprising to find the United States Steel Corp. attempting to do something about them. As in steel pricing, USS inevitably bears the principal burden in steel bargaining. Hence it's engaged, today, in a two-point educational campaign that stresses:

• Moderation in labor demands is a must—so that employment costs don't outstrip productivity increases.

• Legislation to provide more realistic depreciation accounting must be had, so that steel can finance the expansion it faces.

Not surprisingly, when you ask a steelworker about the need for moderation in wage demands, he grins and inquires if an employer ever approached a wage negotiation without suggesting moderation. As for legislative relief, an observant congressman probably would point out that U.S. Steel still hasn't taken advantage of the depreciation speedup made available a couple of years ago.

Nevertheless, the steel industry takes its cost plight quite seriously even if other people don't. Hence the plight can't avoid being a major issue conditioning the 1959 bargaining.

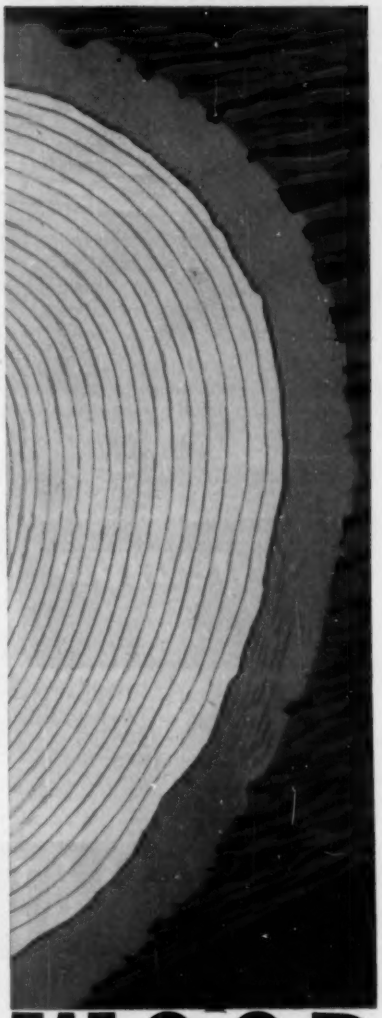
II. New Names, New Faces

A good deal more subtle, but no less real, a factor in the 1959 steel negotiations will be that there'll be some new people doing the bargaining, and some of the old people will be under tough new pressures.

Starting with the industry side, it's as certain as anything can be that U.S. Steel will have a new top man bargaining for it. John Stephens, who has headed U.S. Steel's bargaining team and who, for all practical purposes, has been the industry's No. 1 negotiator as well, will have reached retirement age before June, 1959. Pittsburgh speculates that his successor may be Webb Lorentz or George Thursby, both of whom have worked closely with Stephens. But whoever is in that position will be new to the union and new to the industry as well. Inevitably, a new man in that key position will cause some uncertainty.

Further, the presumption must be that there will also be a replacement for Thomas Patton, who became president of Republic Steel soon after the last contract was signed. Along with Stephens and Joseph Larkin, of Bethlehem, Patton was one of the steel industry's negotiating triumvirate. But traditionally, steel presidents don't negotiate. So there will be a second new face in the crowd.

• **Hurt Prestige**—On the union side of the table, the faces won't be new but



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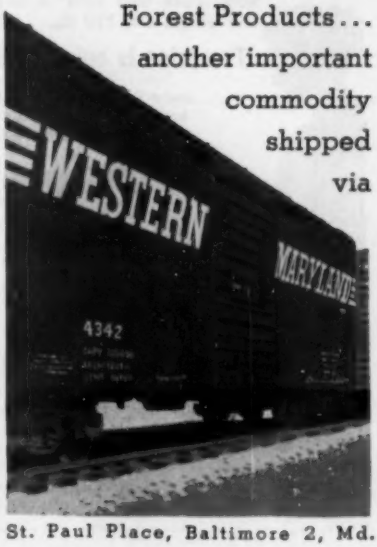

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some highly important personal considerations will be. For USW Pres. David McDonald, it will be his first chance to bring home a handsome new contract since he was opposed for the presidency by an unknown outsider who captured one-third of a small vote. That was an enormous blow to McDonald's prestige (BW—Apr.27'57, p153) and even raised questions within the steel industry as to what lay ahead.

Whatever attitude he carries into the June, 1959, negotiations—whether he's merely playing out the string before an early retirement or whether he's fighting for his union career—McDonald simply won't have the same imposing stature he once had. Lacking that, he can only be something new and unknown for the industry to bargain with.

• **A Precedent**—Hovering over all this newness and uncertainty will be something else. Call it folklore if you will, but in its modern—i. e., postwar—labor relations history, the steel industry has had a major strike just about every three years.

You can argue that the 1946 strike was probably inevitable, because everyone was striking that year.

It's true that the 1952 strike got all mixed up in some very high-pressure national politics.

And everyone agrees the 1956 strike was more unnecessary than the 1952 strike, which wasn't necessary at all.

Theoretically, that leaves only the 1949 strike as one where a major economic issue—pensions—had to be settled by a naked test of strength.

Still, the record stands. A long, hard, costly—and, with one exception, bitter—steel strike every three years has been what it has taken to get along in steel.

Nobody has wanted it that way and a number of important people have worked pretty hard to change it. Still it has persisted.

It can't avoid conditioning the 1959 bargaining.

NLRB Says No to Some Pickets

If a union loses a representation election and then resorts to picketing the employer in hopes of winning recognition, that's a violation of Taft-Hartley, NLRB says.

The National Labor Relations Board has shortened organized labor's picket line.

In its first ruling on the important issue of picketing for recognition, the board decided last week—by a 4 to 1 vote—that a union that loses a representation election cannot turn around and picket the employer to undo the employees' verdict.

The practice of picketing an employer's premises in an attempt to win exclusive recognition after his workers have rejected the union, the majority says, is a violation of Taft-Hartley for two reasons:

• Picketing an employer's premises has the additional effect of damaging his employees—a violation of the T-H clause that bars coercion and guarantees the employee's right to accept or deny organization.

• Picketing to force an employer to recognize, as exclusive bargaining agent, a union rejected by his employees is an attempt to cause him to commit an unfair labor practice.

• **Impact**—The board's decision applies only to a minority union seeking exclusive recognition. It pointedly noted that the decision did not concern a minority union picketing for organizing purposes.

However, the decision does affect a practice employed by unions such as the International Brotherhood of Teamsters, which was a party to this case. Local 639 of the Teamsters picketed a Washington, D. C., storage and furniture company—Curtis Bros., Inc.—after the local lost a representation election by a 28 to 1 vote.

At the time of the vote, Local 639 was on strike over a new contract with Curtis. It had been chosen as the employees' union in 1953 by a 15 to 5 vote, but lost a new election during the 1955 strike. When the Teamsters continued picketing, the company filed charges before the NLRB.

• **Dissenter**—A sharp dissent by Abe Murdock accused the board majority of a stand that makes all picketing "unlawful." Murdock's interpretation is that peaceful picketing—as in this case—is not coercion of employees; that this would be the case only if threats of force or violent picketing were present.

Additionally, Murdock noted that damage to employees on the job is inherent in any picketing. But he says T-H doesn't ban such picketing if employees have freedom of entrance and exit and are not otherwise threatened by the picket line.

Three members of the majority—Chmn. Boyd Leedom, members Philip Ray Rodgers and Stephen S. Bean—came to the same conclusion: that minority picketing for recognition violated T-H. In a concurring decision, member Joseph A. Jenkins held the picketing was a violation because it followed a representation election. END

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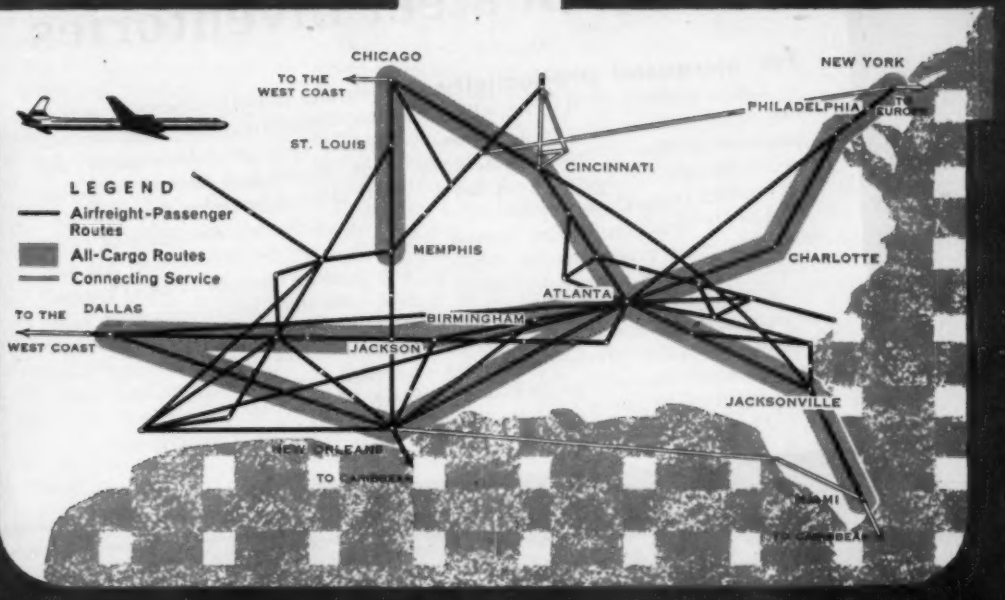

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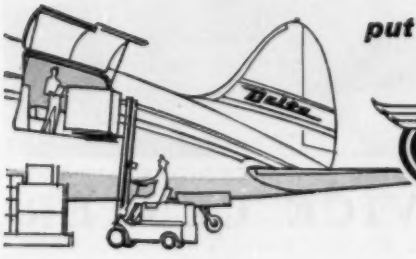

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Productivity Bothers Reds, Too

Output per Soviet worker isn't soaring so fast as Soviet satellites, and Red leaders and managers are trying new methods to overcome the lag behind U. S. productivity.

With two Soviet-launched satellites spinning around the globe, one question that's raised is: How far behind U.S. industrial productivity can the U.S.S.R. be?

The clue, perhaps, is to be found in Soviet emphasis on the subject. Clearly, earthbound Soviet management is far from satisfied with the present state of things, and has the question of how to get more output per worker high on its "must" agenda. New attention is being focused on worker attitudes in an effort to increase productivity by a combination of persuasion, compulsion, and materialistic incentives. And the shifts in the top Kremlin ranks are bringing changes in the methods of attacking the problem.

• **No More Heroes**—Most significant change since Stalin's death has been a shift from pace-setting Stakhanovism to the encouragement of teamwork, the promotion of an efficient, collective productive effort by an enterprise as a whole.

The original Stakhanov, a coal miner, in 1935 organized the work of his crew so effectively that, according to Russian sources, their daily output increased sevenfold. In other industries, workers who outstripped their fellows got Stakhanovite medals as "heroes" of production, plus enormous wages, and other privileges. The result was to raise "norms" on which wages were calculated.

A recent study by Edmund Nash of the U.S. Dept. of Labor's Div. of Foreign Labor Conditions reveals that the Stakhanovite system has apparently outlived its usefulness. V. V. Grishin, chairman of the Soviet All-Union Central Council of Trade Unions, pinpoints the reason: too much attention to "finding winners," too little to bringing lagging enterprises and workers up to the level of advanced ones."

• **Khrushchev Line**—Soviet unions, being little more than docile instruments of the Communist Party and the state, provide a key to newer labor productivity concepts that are replacing the Stakhanovite spur. And a pronouncement by Communist Party boss Nikita Khrushchev sets the line.

Unions, says Khrushchev, "will concern themselves more effectively with questions of socialist competition; stimulation of workers' inventions and efficiency suggestions; checking on . . . the implementation of decisions" adopted by workers' meetings and technical conferences.

Behind Khrushchev's heavy formulations you can almost see an upsurge in Soviet factories over the next few years of management suggestion boxes, buzz sessions, and all the paraphernalia of group "pep-em-up" psychology.

• **Incentives**—Stimulated by recent Soviet scientific achievements—and a developing labor shortage—Soviet managers are searching for the right combination of ideological, honorific, and material incentives to get maximum production out of Soviet workers.

One move is the drive to revise work quotas and wage rates by reducing the proportion of bonus and premium payments in total wages and increasing the share derived from basic wage rates (from the current 40%-55% for piece workers up to 70%-75%, for example).

This drive has run into worker objections and has been successfully implemented only in the construction industry. A recent sit-down strike in the Kaganovich ball bearing plant in Moscow was reportedly over pay revisions. Reliable sources report other slowdowns that have forced local plant managements into collusion with the workers to thwart Moscow-imposed rulings on norms and bonuses.

To offset resistance, the Khrushchev clique has made some changes in Soviet labor relations practices—such as they are. The Soviet Supreme Court recently instructed lower courts to indict state officials guilty of violating labor laws. Workers now have the right, too, to take grievances directly to the Peoples' Court for a second hearing if they are not satisfied with their factory ruling.

Further, Soviet rulers this year repealed court penalties—including prison sentences—for "crimes" such as repeated tardiness, absenteeism, and quitting a job without permission. In addition, the work week has been reduced from 48 hours to 46, and other steps have been taken to boost morale.

• **Lag**—But so far, Soviet success in raising productivity has been limited. Productivity remains on a relatively low level by U.S. standards. This was confirmed by Prof. P. Khromov in Pravda: "At the present time (1956) labor productivity in industry is about 2.5 times higher in the U.S.A. than in the U.S.S.R." This lag the Soviet Union is determined to overcome.

Teamsters Set Convention Strategy

IBT will argue before full AFL-CIO meeting that any wrongdoing preceded new constitution, so isn't punishable.

The International Brotherhood of Teamsters will appeal its suspension from AFL-CIO to the federation's biennial convention in Atlantic City next month. It contends that irregularities, "even if true," occurred "before adoption of the [AFL-CIO] constitution in December, 1955," and therefore cannot be grounds for suspension.

The Teamster strategy was approved at a lame-duck executive board meeting last week, presided over by Dave Beck. AFL-CIO's suspension order against the truckers' union demands that it "eliminate corrupt influences from positions of leadership." IBT's board did not give any serious consideration to this demand.

• **Deaf Ears**—There is little chance that the Teamsters' plea will receive a sympathetic hearing at the AFL-CIO convention. The federation takes the position that the controlling factor in the suspension—or ouster—of unions from its membership is whether they are now dominated by "corrupt influences." The dates on which misconduct occurred are unimportant.

While the Teamsters prepared to fight suspension, two other unions facing an AFL-CIO crackdown moved to clear themselves of charges against them. Last week:

• The United Textile Workers' president, Anthony Valente, resigned, and the UTW board moved to call a special convention "as soon as possible" to elect successors to Valente and Lloyd Klenert, secretary-treasurer, who resigned earlier. Both were under fire from AFL-CIO. The UTW board also "rescinded" a $104,000 "severance pay" deal with Klenert. AFL-CIO had criticized it.

• The Distillery, Rectifying, Wine & Allied Workers scheduled a convention for Nov. 25 in Washington to consider steps to bring the union into compliance with AFL-CIO ethical standards.

A third discredited union, the Bakery & Confectionery Workers, will consider at a board meeting next week whether to try to clear itself of federation charges—or to pin its hopes on an alliance with the Teamsters. **END**

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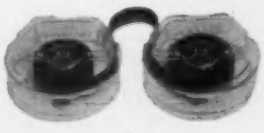

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In Labor

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U. S. Scandals Inspire Canadians To Ask Stricter Checks on Unions

Troubles of the U. S. Teamsters have spilled over into Canada, where manufacturers are seeking new legislative controls over unions to forestall what they see as a possibility of "similar messes disrupting the comparatively stable Canadian union situation."

The Ontario Div. of the Canadian Manufacturers Assn. recently proposed a series of amendments to Ontario's Labor Relations Act. Among the changes, the Canadian manufacturers recommend giving employers the right to sue unions for unlawful strikes and contract-breaking; severely curbing picketing and secondary boycotts; requiring all unions to file copies of constitutions and bylaws and the names and addresses of officers and to issue audited financial statements; and barring unions from causing a worker to be fired by expelling him from the union.

Canadian unions and management feel that the manufacturers have little chance of achieving all objectives.

• • •

Maritime Engineers' Unions Agree On Trial Merger Within AFL-CIO

The two AFL-CIO licensed maritime engineers' unions last week arranged a trial merger to run through Jan. 1, 1960, when the unions will consider making the amalgamation permanent. The 1,000-member Brotherhood of Marine Engineers, a former AFL union affiliated with the Seafarers' International Union, joined the 11,000-member Marine Engineers' Beneficial Assn., formerly CIO, as an autonomous division.

The BME will retain its ties with SIU until the final merger, which must be ratified by the membership of the two engineers' organizations.

• • •

Miners Pass Up Special Holiday Pay, But Lewis Keeps Mum on Other Aims

John L. Lewis last week assured bargaining associations in the coal industry that the United Mine Workers will not ask for a special Christmas holiday payment for its members this year. **At the same time, Lewis was—as usual—silent about longer-range contract objectives.**

Miners received $40 for a four-day mine holiday over Christmas last year. While working, the minimum coal wage is $22.50 a day, but by agreement the shutdown pay averaged $10 a day.

New contracts signed in 1956 provided that UMW and operators would have to negotiate this year on what, if anything, would be the Christmas holiday pay in 1957. In a letter to the coal bargaining associations, Lewis said that UMW does not anticipate bringing up the question this year.

In the absence of negotiations between the parties, he noted, "no contractual obligation exists for the idling of the mine . . . or the payment of vacation monies."

Coal contracts can now be reopened on 60-day notice. A midwinter demand by Lewis for a wage boost for soft coal miners is considered possible.

• • •

Hoffa Is Still Outside Looking In As Appeals Court Upholds Injunction

James R. Hoffa failed again this week in an effort to clear away the legal blockade that has kept him from assuming the presidency of the International Brotherhood of Teamsters.

A three-man U. S. Court of Appeals in the District of Columbia refused to set aside a temporary injunction barring Hoffa from the Teamsters' top job until a formal trial is held on charges that his election was rigged.

No date for the trial has been set, but the Court of Appeals suggested that it be held as soon as possible. The trial will be held before U. S. District Judge F. Dickinson Letts, who issued the stop-Hoffa injunction in response to rank-and-file allegations that 80% of the delegates to the Teamsters' convention in Miami Beach last month were handpicked by Hoffa and his henchmen.

The Court of Appeals upheld Judge Letts' basic order as a "proper exercise of judicial authority." It also sustained other directives that (1) prevent Hoffa and the officers elected with him at Miami from drawing salaries attached to their jobs, and (2) forbid the Teamsters' hierarchy from taking reprisals against the rank-and-file unionists who are plaintiffs in the legal fight against Hoffa or who are aiding them.

• • •

Industrial Unions Step Up Research To Bolster Wider Bargaining Role

The Industrial Union Dept. of AFL-CIO last week announced that it wants to add three top-level research experts to improve its function as a "service center" for 71 affiliated unions with 7.2-million members.

Getting set for an expanded role in collective bargaining and other fields (BW—Oct.26'57,p151), IUD has invited to its staff: Solomon Barkin, research director of the Textile Workers Union of America; Everett Kassalow, of the United Auto Workers research department, and Leonard Lesser, a social security expert.

The department's recent two-day convention attacked state right-to-work laws as a barrier to effective organizing; called for guaranteed year-round income for workers, with supplemental unemployment benefits plans as a start; said the shorter work week is possible in mass production industries to begin with, other industries later; and recognized the "reality" of a trend toward more production in manufacturing with fewer workers.

ECONOMICS

Makers of Atomic Gear Wail

Business is bad anyway, they say, and now Britain's near-disaster at Windscale may inflame the public against atomic power plants—although U. S. projects are safer.

Already wracked by soaring costs and slack sales, the nation's budding atomic equipment industry had another major worry on its hands this week. The source was the near-disaster at Britain's Windscale reactor plant last month (BW—Oct.19'57,p50). Many industry people feel that the accident and the headlines it still is making could not have come at a worse time.

"On top of all our other troubles, all we need now is some crackpot or someone with an ax to grind out telling the public that Windscale proves that all reactors are unsafe," says one manufacturer. "Of course, it does not prove anything of the kind."

Another equipment supplier agrees. He concedes that business was "terrible" even before Windscale, but the accident certainly must have "raised some eyebrows" among people who were thinking of building or financing big atomic plants.

• **Worries to Public**—There is more than future business at stake, too. Several atomic power plants are under construction in this country. Several are in the vicinity of large cities—Pittsburgh, New York, Chicago, and Detroit. The Detroit-area project already has been challenged on grounds that its safety has not been proved (BW—Jan.13'57,p27). Despite the fact that no plant being built in this country even vaguely resembles the ill-fated Windscale reactor, at least one U. S. manufacturer fears the accident may have an unfavorable effect on public opinion.

"We must be careful to point out that this kind of accident cannot occur under any circumstances with our reactors," says this executive. "But this involves technical details that are rather difficult to get across to the average layman."

I. Facts About Accidents

Actually, the Windscale accident points up two tough facts of atomic life:

• Despite all the near-foolproof safety devices with which reactors are equipped, it's possible for one to fail if its operators make certain mistakes. The human factor is still involved, and men still make mistakes.

• A serious accident to an atomic reactor conceivably could cause more widespread damage than any other type of industrial mishap. When the Windscale reactor went haywire, it tossed radioactive contamination over an area of 200 sq. mi.

But the atomic equipment makers have been living with these facts from the start. In 15 years of U. S. construction and operation of reactors, no such accident has occurred. Nor are the British likely to experience another such mishap.

• **Windscale System**—The Windscale reactors were the first built in the United Kingdom for the production of plutonium. Their cooling systems are of the open-cycle type—that is, coolant air passes from the reactor into a high stack, where it passes through filters, then is vented to the atmosphere. During the accident at Windscale, radioactive iodine in gaseous form got into the coolant air and passed through the filters.

But the British are no longer building open-cycle reactors. The carbon dioxide that cools the big Calder Hall power reactors is recycled to the reactor after it has been cooled. This type of reactor doesn't require the kind of maintenance that was under way at Windscale when the mishap occurred.

U. S. equipment makers do not see the accident as a complete loss for their own interests. Several industry spokesmen noted the speed with which the AEA announced the failure, started an investigation, then gave the facts to the public.

"It is . . . in the interests of our new industry—quite apart from our obligations to our fellow citizens—that the fullest possible account of such occurrences and their consequences should be published as quickly as the facts can be reliably established," explains a spokesman for the British authority. "It is from experience and understanding and not from the assertions of experts, however eminent, that public confidence in atomic energy will develop. Only thus will people be able to get the hazards of atomic power into a proper perspective and be able to compare them with the hazards of working in and using the products of such industries as coal, oil, chemicals, and transport."

• **AEC Mum**—This is in sharp contrast with past policies of the U. S. Atomic Energy Commission regarding failures of its reactors. In at least one case, where damage was on no such scale as that at Windscale, the commission withheld all information for several months (BW—Mar.31'56,p119).

Talk about Windscale was only a part of the gloomy conversation at last week's meetings of industry representatives in New York. The sessions were sponsored by the Atomic Industrial Forum and the American Nuclear Society.

II. Other Lamentations

Another hot topic was the dismissal by Bell Aircraft Corp. of most of the nuclear engineers on its staff. The engineers reportedly had been hired originally to design atomic power plants. And there were rumors of retrenchment by several other companies in the field.

There were ample complaints about the rising cost of atomic gear (BW—Oct.12'57,p48). But even more frequent were wry comments on the lack of customers.

"The only people asking questions about our exhibit are college professors and school kids," complained the representative of an equipment maker. "These shows always produced five or six good prospects for our salesmen in the past, but we will be lucky to get one this time."

• **Government Aid**—Significantly, several equipment makers, including Westinghouse Electric Corp. Vice-Pres. Charles H. Weaver, called for new government assistance in building atomic power plants. Weaver suggested that U. S. industry and the government collaborate in building plants in other countries.

Other industry spokesmen indicated they would like to see the government help finance atomic plants abroad. But a majority expected the current slump in the atomic equipment market to produce legislation they don't want—providing for construction of a number of government-owned plants in this country.

The Atomic Energy Commission was no help in lifting the gloom. A spokesman told the gathering that AEC is getting all the uranium it needs. So from now on the commission will not seek more long-term contracts for the ore.

This touched off a sharp drop in the stocks of mining ventures. And well it might. Up to now, any prospector who found uranium was assured of an immediate market. Now he has to wait for a future market, until AEC's present contracts run out or until the commission increases its requirements for the ore. END

Has GM Lost Price Leadership?

The price tags on 1958 autos—particularly the least expensive models—are so similar that Detroit wonders whether General Motors is still price "policeman."

The competition in the automobile industry to show price increases in the best possible light this week had two results—a mystery (how much have prices actually gone up?) and a challenge (to General Motors, for years the hinge on which all prices swung).

If you take the manufacturers' announcements on prices, it looks as if the industrywide increase averaged roughly 3%. But all the averages coming out of Detroit this year are meaningless. In their anxiety to soften consumer resistance to higher prices, the auto companies have rejiggered models and accessories so much that few cars are exactly like the model bearing the same name a year ago.

And Ford, Chrysler, and American Motors say they have cut prices on some cars—although the models concerned are not directly comparable to any offered for 1957. This is where the challenge to General Motors comes. For years, GM was recognized as the most efficient company in the industry. Competitors were on their mettle to match GM prices. This year's prices, particularly for the least expensive cars, are so similar that they indicate Ford and Chrysler have made great strides in meeting GM's cost efficiency.

• **Price Picture**—"Factory suggested retail prices" are a poor guide to what a customer pays for a car because they don't take into account taxes, transportation, handling charges, and local competitive conditions. But these prices are good for comparison.

For 1958, Ford's lowest-priced six-cylinder four-door sedan has a factory list of $1,930. Chevrolet's comparable car is $1,955 and Plymouth's $1,974. The 1957 factory list prices for the three models, as announced, had Ford only $1 lower than Chevrolet and Chevrolet $18 below Plymouth. So, in comparison with Chevy, Ford has greatly widened its price advantage, while Plymouth has slipped a bit farther in the other direction.

What Plymouth has given away on the low end of the line it has regained on its most expensive six-cylinder four-door, which at $2,225 is only $5 more than Chevy's similar model. Last year, Chevy was $30 below Plymouth in this series. Ford's most expensive four-door sedan for 1958 is $3 more than Chevy's; last year, it was $44.

You'll find the same closing-up in the medium-priced lineup. Last year, Pontiac's Chieftain was the lowest-priced V-8 four-door sedan in the group. This year, Edsel's Ranger at $2,366 is below the Chieftain's $2,396. Last year, Pontiac was $39 under Dodge's cheapest V-8 four-door sedan and $119 under Buick's Special.

For 1958, Pontiac's advantage over Dodge is only $14 and over Buick $52.

• **Inside the Price Tags**—This is what you read on the price lists. Then you have to start adjusting to see just what has really happened to car prices—and how they got that way.

Ford Div. prices advanced an average of 2.5%, Chevrolet 4.5% (5% on V-8 models), and Plymouth 2.9%. But there are three factors that must be considered:

• Some equipment formerly optional was made standard, and the 1957 figures were adjusted to include this equipment in the comparison. Or, in some cases, equipment standard in 1957 was made optional in 1958.

• Some cars—Edsel, Chevrolet, Pontiac, Lincoln—are completely new. Accordingly, they must absorb higher tooling costs than revamped models.

• Some series of cars were added to lines or eliminated.

• **Ford vs. Chevy**—How Ford Div. stacks up against Chevrolet is a good example. Last year, Ford had four series: Custom, Custom 300, Fairlane, and Fairlane 500. Its Custom four-door was $1 less than Chevy's model 150 four-door, but the Custom 300 was $136 more than the 150. This year, Ford eliminated the Custom, and it can claim a $42 decrease in the Custom 300 price. Still, Ford's lowest-priced 1958 four-door is $65 higher than it was in 1957. Chevrolet's lowest-priced four-door went up $80.

That isn't the whole story, however. Ford removed $22.40 worth of standard equipment from its Custom 300 and made it optional. So a Custom 300 equipped as it was in 1957 would cost $19.60 less in 1958—not $42 less. Chevrolet did the opposite. "Positive action" windshield wipers and a 30-amp. generator cost $17.82 more in 1957; now they are standard equipment. Chevy's actual increase works out to $98, rather than the $80.18 that appears in the price lists.

Chevrolet, of course, has higher tooling costs to recover than Ford. In addition, Chevrolet has a new "luxury" line, the Impala.

• **New Models**—Their new models include the Pontiac Bonneville series (convertible and hardtop), priced at $3,227 and $3,179. At announcement time last year, Pontiac's most expensive model (excluding station wagons) was the Star Chief convertible at $2,797. Buick has added the Limited at at the top of its line, with a four-door hardtop priced at $4,651.

At Lincoln, of course, the biggest change is the drastic reduction in Continental prices. The Mark II listed at $9,200. The comparable Mark III model (the two-door hardtop) is priced at $5,367—$473 above the most expensive two-door Lincoln. Continental's highest-priced model is $5,792.

Chrysler also changed a model in order to lower the price. The Windsor last year was priced at $2,861 for the four-door sedan. A 1958 car with comparable equipment will bear a factory tag of $2,849. But the 1958 Windsor has a new chassis, with a 122-in. wheelbase, 4 in. shorter than in 1957.

• **At Retail**—Most of the 1958 cars are now on sale, and retail prices have jumped much higher than any manufacturer's list prices. That's not all due to the announced increases. While they were clearing out their 1957 models, dealers were selling at cut-rate prices with the help of factory bonuses of one sort or another. Now, with 1958 models on display, the dealers are again striving for a high gross.

Chances are you will find that 1958 models are selling at retail for an average of $400 to $500 more than the 1957s were bringing recently. How long they will stay at those levels will be one indication of what kind of auto year 1958 will be.

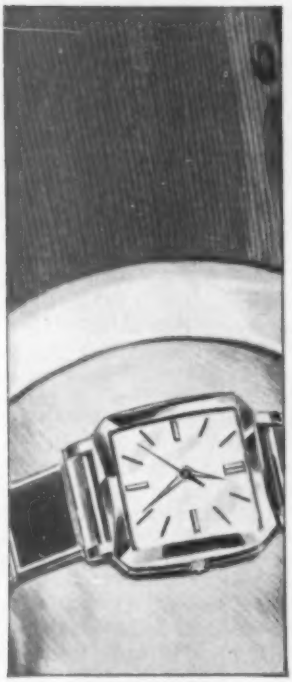
• **Industry Meaning**—Within the framework of industry competition, the new price lists mean that Ford—and to a very much lesser extent, Chrysler—is getting itself into a position to set its prices with no more regard for General Motors' prices than for those of any other competitor. This has not always been true.

A common saying around Detroit has been "GM is the policeman over prices." GM has been so successful through the years that no other company dared try to undercut GM's prices; without GM's efficiency, it would be imperiling its own profits. Conversely, no company, unless its costs made such a move imperative, dared price much higher than GM for fear of losing its market.

Now the situation has changed. Ford must feel that its 1958 prices will yield the desired profit return, and that has an important meaning: Ford feels its efficiency matches GM, a goal it has been struggling to achieve since 1946.

BANKING

Guaranty's National Clearing Plan Improves Control and Speeds Flow of Corporate Funds



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4. It gives the treasurer finger-tip control of funds in depositary banks in the areas served by his company.

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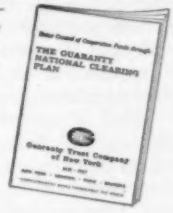
If you would like to receive more information about The Guaranty National Clearing Plan, simply write on your business letterhead for a complimentary copy of *"Better Control of Corporation Funds through The Guaranty National Clearing Plan."* Address Dept. BW-9.



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THE MARKETS

Rushing Nowhere

Stock market is aimless and uncertain, with a general belief that business is headed for a mild downturn.

The stock market this week resembled a man on a treadmill: It went through a lot of gyrations but essentially marked time.

Wall Street's reaction to the launching of the second Soviet satellite was indicative of its over-all mood. In the first hour of trading on Monday, the Dow-Jones average plummeted six points. Then, it turned around, finally ending up a negligible fraction below the previous close. As one securities analyst put it "even when it's outer space, investors never discount the same thing twice."

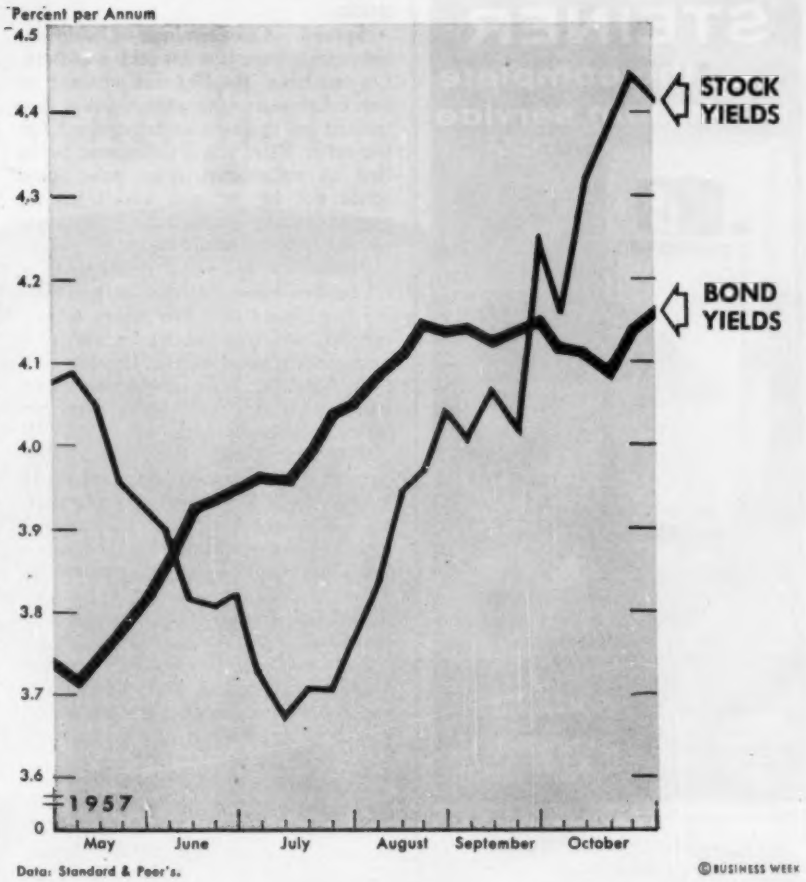
In its current mood of uncertainty and aimlessness, nothing but a major change in either foreign or domestic affairs seems likely to bring about a definite move in the stock averages. The market is currently saying that business is headed for a mild downturn, and any news confirming this prospect will cause no surprise. At the same time, bullish news is likely to be treated with skepticism.

• **Shockproof**—The averages show that Wall Street, having suffered a 20% decline, is momentarily shockproof. Since the one-day buying wave on Oct. 23 that followed a four month decline, the Dow-Jones average has been remarkably steady, with the closing figure of each trading day falling between 432 and 431—a very narrow range.

The hourly figures show much broader movement, ranging from a low of just under 428 to 444. This reveals that though the market has been relatively stable, fairly wide fluctuations are taking place.

For example, the Russian satellite helped boost shares of companies engaged in missiles and rocketry. Such stocks as North American Aviation, U. S. Borax, Boeing, and Glenn Martin all made handsome gains. But railroads took a beating on news that carloadings were down.

• **Watch and Wait**—Most Wall Street firms are taking a cautious attitude, expecting the averages to remain in their present range or go slightly lower. They point out that trading has simmered down since the hectic week when the market staged its selling climax and post-climactic recovery. "Investors don't know which way to jump," said one broker, "so for the present most of them are on the sidelines."



Data: Standard & Poor's.

©BUSINESS WEEK

A New Lure for Stocks

Falling prices have put equity yields at a three-year peak, and well above bonds.

The chart above shows graphically what the big drop in stock prices since July has done to stock yields. The yields on common stocks have not only climbed above yields on high grade corporate bonds but have reached the highest level since December, 1954.

Bond yields, which are at their highest peak in almost 25 years, this week showed signs of heading down. Underwriters report that the leveling off in corporate spending (page 23) is already reflected in a lower demand for capital. At the same time, the Federal Reserve is no longer pressing its tight money policy. Officials at the Fed say that if demand for capital shows signs of slackening, interest rates and yields will ease.

There is no assurance that stock yields will follow the same pattern. It would take a strong upturn in stock prices to keep the gap between bond and stock yields from widening. If stock prices remain stable, the downturn in bond yields will widen the gap. And if stock prices fall further, then the higher yields available may tempt buyers back into the market.

• **Shift of Interest**—The spectacular fall in stock prices to date is making a lot of investors yield conscious. In the bull market, the majority of investors feared inflation and tended to ignore what rising stock prices did to yields. But in a market decline, especially as deep a one as Wall Street has experienced in the last four months, investors are concerned about the possibility of short-range deflation. A lot of attention is being devoted to stocks that provide secure yields rather than to stocks with appreciation potential.

Institutional investors always follow the trend of stock yields and the relationship between bond and stock yields in making investment decisions. When bond yields edged above stock yields last June, it was a clear signal to them to switch from equities to debt issues. It's rare for bond yields, which represent fixed income securities, to

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soar above the yields on riskier common stocks.

• **Special Circumstances**—Conditions this spring were ripe for such a pattern. On one hand, the Fed was pursuing an anti-inflationary tight money policy that pushed up the cost of borrowing. On the other, there was a widespread belief that an inflationary wage price spiral could not be stopped, which led investors to buy stocks as a hedge, and in turn lowered their yields.

Now stock and bond yields have reestablished a more normal pattern. But it is significant that this return to normal has not come about by any slide in corporate bond yields. On the contrary, with the Fed maintaining its restrictive policy, bond yields have remained extremely high.

The fact is that the yield average on high grade corporate bonds tends to understate the big jump in interest costs for corporate borrowers. Companies that have come into the market for new funds have had to pay 5% or more to insure success, and, in addition, lock themselves in with long-term "no-call" provisions.

Last week, for example, the giant American Telephone & Telegraph Co. had a 4.9% interest tag put on its debentures, the highest rate it has paid since 1930.

• **Cut Rates**—Moreover, underwriters have sold some issues to big institutional investors at below market prices in order to move them off the shelves. This does not show up in the averages, but underwriters privately admit that the tight money has led to some cut-rate selling. This is confirmed by institutional investors, one of whom says, "We got some offers that were frankly irresistible from the standpoint of yields."

Now that the peak has been passed in bond yields, there is a good chance that stock yields will begin to attract investors. The rise in stock yields is almost wholly due to the fall in stock prices.

Dividends increased during the first nine months of the year, but this rise was offset by the increase in stock prices in the first part of the year. It is probable that dividend payouts in the last quarter will not be up to the 1956 period, which means that yields by themselves will undergo no major change. But with no major slide-off in dividends expected, the over-all yield picture is bright.

• **Growth Shares**—Many growth stocks, which were in the vanguard of the bull market and then led the parade downhill, have registered a big increase in yields—enough, in some cases, to give them the characteristics of defensive stocks.

True, the yield offered on the common stock of International Business Machines is still below 1%, and Alcoa's stock is yielding less than 2%, however, these are exceptions.

For example, Allied Chemical & Dye, whose yield touched a low of 2.3%, now sells at a price that provides a 4% yield. Du Pont, another growth favorite, which was yielding 2.7% at its high, is currently close to 4%. A growth stock like General Dynamics is yielding almost 4%, while General Motors and U.S. Steel both yield over 5%.

Wall Street brokers, and investors in general, no longer feel that the growth issues will show the kind of appreciation in price that featured their performance in the bull market. But the yields that their deflated prices provide are already tempting some investors.

A number of stocks offer much bigger yields than the favored growth shares. This group includes the metals, aircraft, railroads, and other performers that have suffered big price drops. Anaconda, for example, now yields 10%, Kennecott almost 7%, North American Aviation over 8.5%. And investors have a choice of railroad stocks yielding over 7%.

• **Factor of Risk**—It should be pointed out that high yields are not necessarily safe. Stocks that yield 7% or better are more vulnerable to a reduction in dividends than stocks of companies that have followed a more conservative policy.

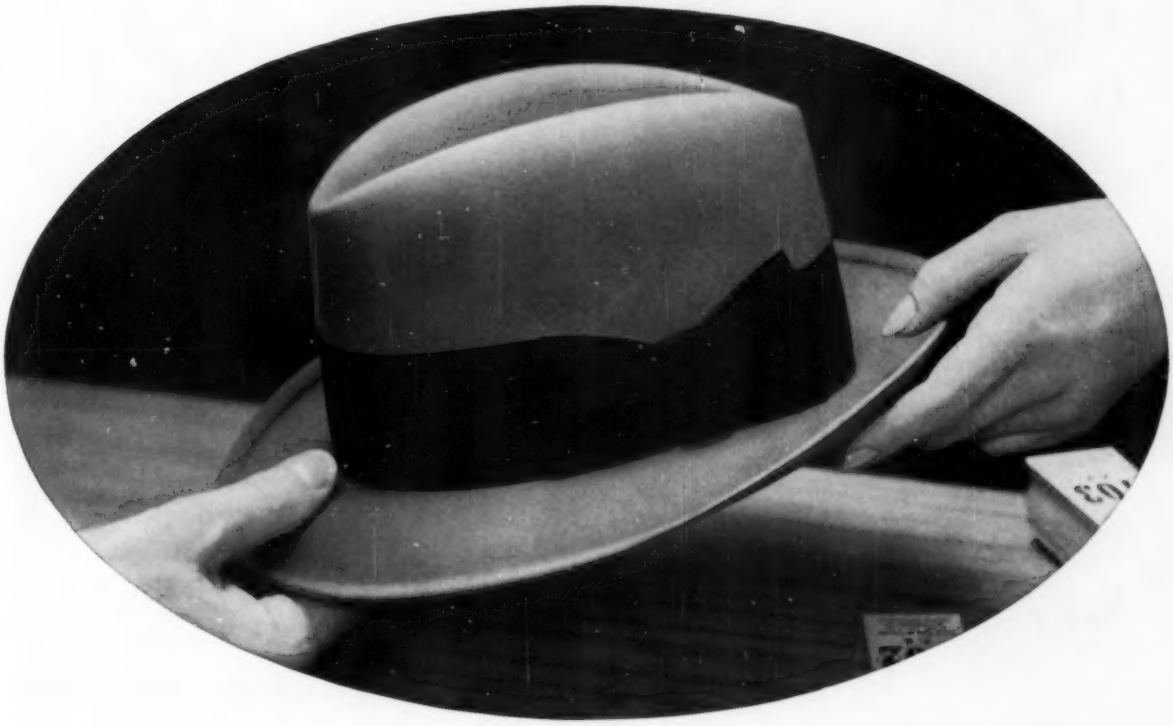
There has been a rash of cutbacks in dividends by some of the companies whose stocks have sold on a high yield basis. New Jersey Zinc for example, which was selling at a 6% yield, has cut its dividend; and Miami Copper, which was yielding almost 7% has followed suit. And many railroads will probably be cutting their payouts to bring them into line with their lower volume of business.

It is clear that when stocks sell at high yields it may mean heightened risk as well as depressed prices. And it is the riskier stocks that show the highest yields. The defensive stocks—utilities, drugs, food companies, and chain stores—offer lower yields but considerably safer ones due to their conservative policy.

In general, defensive stock yields bear a close relationship with bond yields, thus giving a degree of stability to both prices and yields.

• **And Safety, Too**—But the drop in stock prices has resulted in a big increase in yields on stocks that are considered safe. Smart investors are now combing the lists to find them. As one broker put it, "The present market offers an opportunity to combine good current yields with future growth even if the market takes another shellacking." END

YOU'RE JUDGED BY your hat



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PERSONAL BUSINESS

BUSINESS WEEK
NOV. 9, 1957

With the stock market in a bearish mood, investors with margin accounts will want to take a close look at how a downward drifting market can affect their accounts.

Basic rule is the Federal Reserve's 70% margin requirement—applicable to securities listed on any national exchange, and those with "trading privileges." (Some accounts dating back before January, 1955, when the margin requirement was 50%, have been maintained on that basis.)

The 70% rule does not apply to unlisted stocks (which must be paid for in full), nor to "exempted securities"—U. S. bonds, U. S. instrumentalities, and state or municipal bonds. To purchase these, a broker can lend you a high percentage of market value—up to 95% for U. S. governments, 80% to 85% for state and locals.

You'll find, too, that the basic margin rule does not apply to stocks selling at very low prices (usually $3 or less), simply because brokerage firms don't carry margin accounts on these.

Obviously, if the price of the stock bought on margin rises, you have no troubles—you can reduce your margin, buy more shares. A falling market, though, places you face to face with a number of technical rules. The federal law says, in effect, that once the customer has deposited his 70% he needn't deposit more. But in practice the exchanges and brokers have set up special rules regarding calls for more cash or collateral. (You agree to these rules when you open a margin account; you also give your broker permission to pledge the securities.)

The New York Stock Exchange has two basic requirements: **(1) A customer must have at least $1,000 in his margin account, and (2) he must keep his account up to a 25% "minimum maintenance" level.** This means that a customer's equity in a margin account must not fall below 25% of current market value. (Other major exchanges have similar rules.)

Say you buy 1,000 shares at $20 and pay $14,000 in cash. Your debit balance is $6,000. The stock later sinks to $8. Your total value is now $8,000; you still owe $6,000 to the broker—so your equity is just $2,000, or 25% of market value. At this point, you meet the minimum requirement—**if the stock sinks further, the broker must call on you for enough extra margin to bring your account up to the 25% level.**

In practice, though, you'll find that most brokers play safe and fix stiffer maintenance requirements than the 25% exchange minimum—usually from 30% to 35% of current market value.

When your account reaches the "house" limit, say 35%, you will get a formal call for more security—in the form of cash, stocks, or bonds. The call will come by telephone or mail; **you'll have a "reasonable time" to cover the account, usually two to four days.** If you're out of town, even abroad, the firm will try to reach you by telegram or cable. Exactly how this is handled depends somewhat on the history of your account, your identity, and broker policy. **Brokers will go as far as possible—and they emphasize this point—before action will be taken without your knowledge.**

If you fail to act on the first call, you'll get a second notice—warning you of a sellout, usually within 24 to 48 hours. If you still fail to cover, the broker will sell enough shares to bring your account up to the house requirement level. The remainder of the shares will be held as before, and your account continued.

Interest rates currently charged by brokers on margin account debit balances, incidentally, run from 5% to 6%.

Banks, of course, also make loans for the purchase of securities on a margin basis—though few encourage this trade. They're bound by the same 70% margin rule. But beyond that, there's a wide range of "house" practice in dealing with calls for more collateral or cash.

What banks do, more generally, is make regular loans. If a customer owns shares outright, he can use them as collateral at a bank, get up to 70% of their current market value. He is then free to use the loan money for anything he wants—although he is not supposed to buy additional stocks.

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Now that all eyes are focused skyward—with Sputnik and Muttnik circling the globe and International Geophysical Year "moon watch" in full swing—perhaps you're considering astronomy as a hobby. If so, remember that much of your time will be spent at night and out-of-doors—even in cold weather. Here's the main equipment you'll need:

• **Binoculars might be satisfactory as a beginning**—but you'll eventually want to invest in a telescope (or build one, as many astronomers do). A 7x50 pair will give you the best field and light for night work, and costs about $20 for some Japanese models, up to $150 for some U. S. and German models. **One drawback:** Unless you mount them on a tripod, binoculars will be uncomfortable for long sessions—and any movement you make while holding them will be magnified.

• **Telescopes—there are two basic types: the reflector (mirror) and refractor (lens).** For very detailed observation of the planets and moon, the refractor type is best. However, most amateurs prefer the reflector type with a paraboloid surfaced mirror, because it gives a bigger field of vision and has more light-gathering power than a comparably priced refractor type. For example: A reflector telescope (3-in. mirror, 36-in. tube, on tripod) costs around $30, whereas the 3-in. refractor costs around $125. The 6-in. size reflector (4-ft. tube, heavy mounting) costs $250-$300, compared to about $1,000 for the same size refractor telescope.

In addition, **there are two basic books you'll want to read:** Astronomy, 5th edition, by Robert H. Baker (Van Nostrand, $6.25), and New Handbook of the Heavens, by Bernhard and others (McGraw-Hill, $4.95).

Once you've started observing, here are some services you can render: (1) **Moon Watch**—an IGY program for observing satellites, continuing through December, 1958 (write: Smithsonian Astrophysical Observatory, Cambridge, Mass.), and (2) **variable star observations** for the American Assn. of Variable Star Observers; 4 Brattle St., Cambridge, Mass.

—•—

Fuel injection for automobiles, which is supposed to mean a smoother running engine and higher horsepower (BW—Sep.8'56,p29), will be offered as optional equipment on five more models this year. But it probably won't live up to high expectations yet. There are still bugs in the system—relatively little fuel economy and difficult maintenance problems, for instance—to make the additional $400 investment seem worthwhile for everyone's every-day car.

Even Detroit admits that the swing to fuel injection won't happen overnight, at least until the cost and maintenance can compete with the regular carburetor system. But if you want to test it now, in its beginning stages, you'll find it offered on the peak horsepower models of Chrysler, DeSoto, Dodge, Plymouth, and most Pontiacs and Chevrolets.

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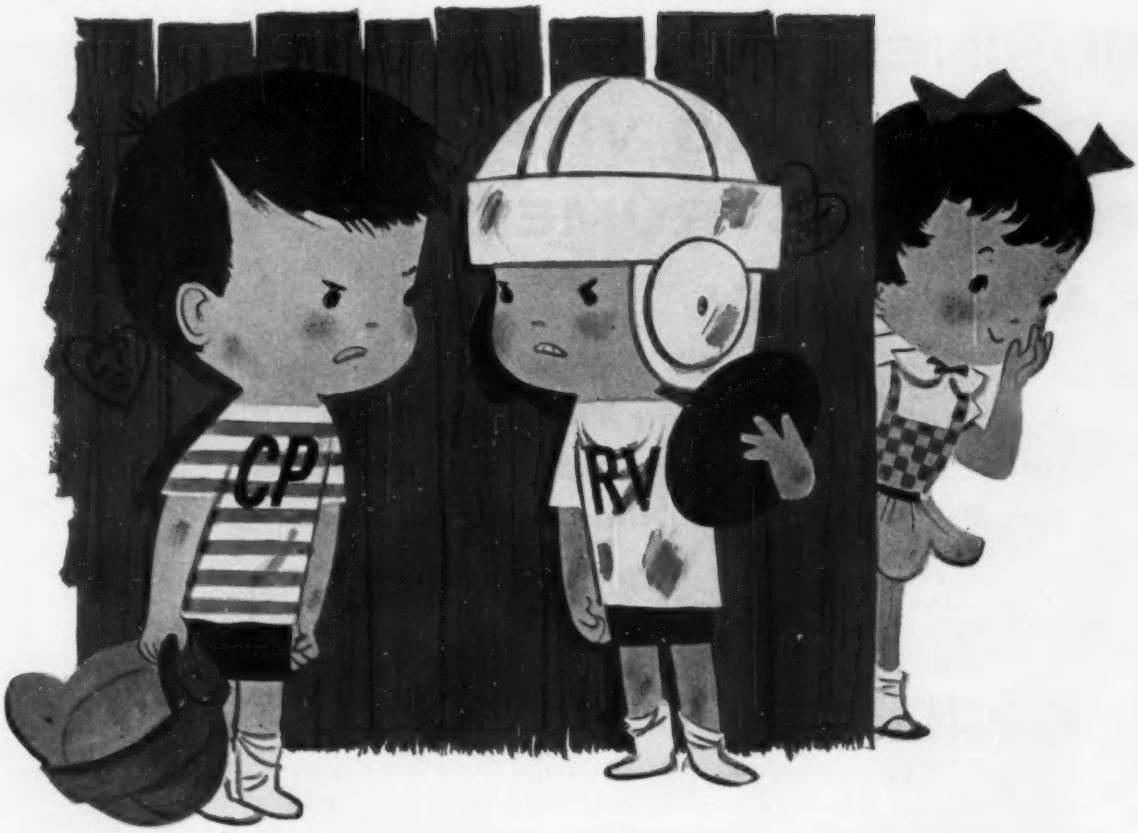
USCOLITE PLASTIC PIPE



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"We always had urged our own people to use business magazines to keep abreast of new technical developments and rapid engineering advances. We believed that, by putting our products and services before the markets we must reach, we could serve our customers in the same way. The resultant customer acceptance and tremendous sales increase show how well business magazine advertising helped us disseminate information on the specialized products we offer."

IF WHAT YOU MAKE OR SELL is bought by business and industry, you'll find that consistent use of business magazines will help you "mechanize" your selling. After advertising has made contact with potential customers, your sales people can devote themselves to their proper work—making specific proposals and closing sales. You will find that the best way to "mechanize" your selling—at the lowest cost—is by *concentrating* your advertising in the McGraw-Hill magazines serving your major markets.

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"His Majesty" . . . "Great White Father" . . . or plain "Boss" — whatever the pet name your friends in the outer office use to refer to you, there is nothing in executive office seating that more befits you or your position than this matching pair of Rest-All aluminum models. Massive comfort, superb quality from hooded casters to heavily cushioned armrests, seat and back. Swivel has full posture-fitting. There's a Rest-All model for each of your friends, too. Write for literature.

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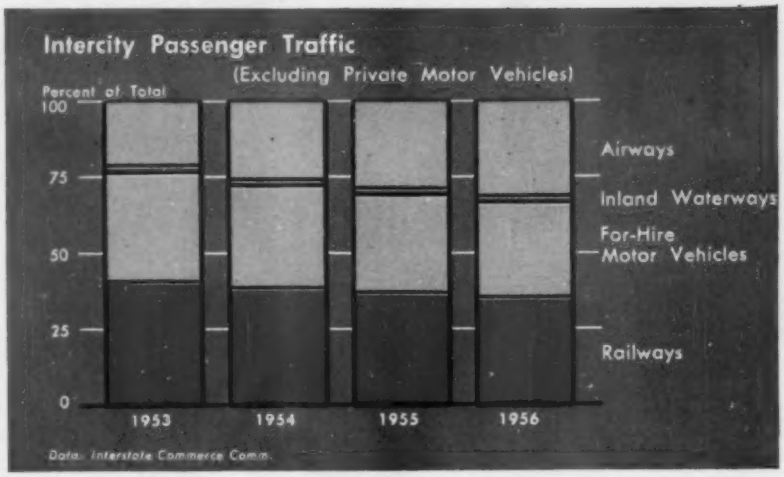
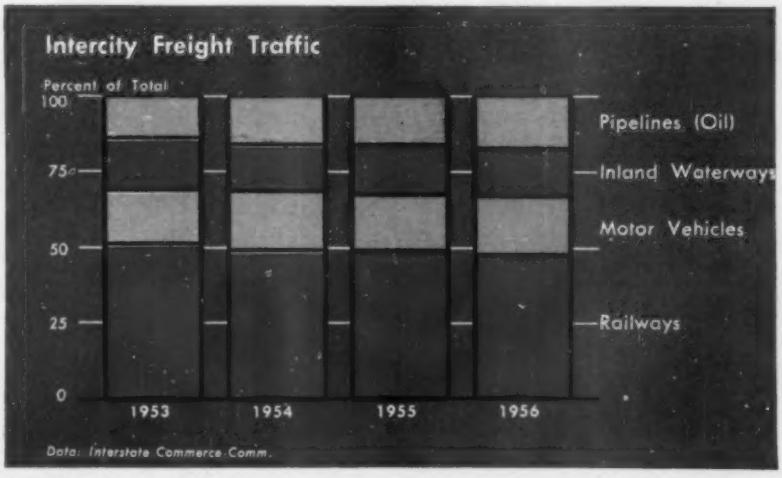
CHARTS OF THE WEEK



Airways Make Biggest Gain

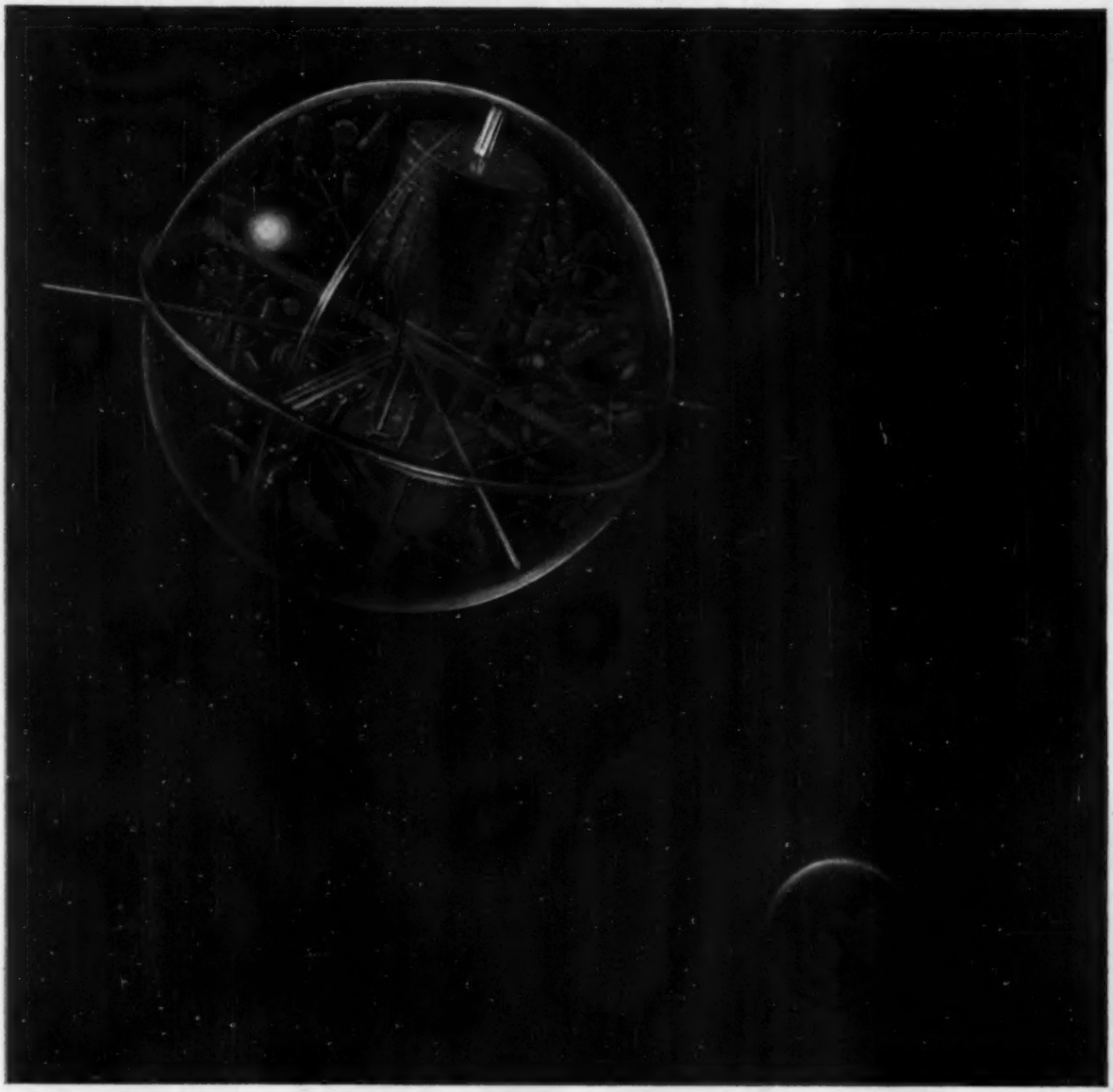
Passenger miles flown by airways have shown a striking rise in proportion to total intercity passenger traffic (excluding travel by private motor vehicle). Airways in 1956 flew 47% more passenger miles than in 1953. Railway and for-hire motor vehicle passenger miles continued to account for a declining share of the total.

But if private motor vehicles are included in the figures, total motor vehicle passenger miles mount to 92% of the total, compared with 4.1% for railways and 3.7% for airways. This indicates the tremendous part that the private car plays in the nation's transport picture. From 1953 to 1956, private motor vehicle passenger miles in intercity traffic increased 16.7%. They carried 88.4% of the total volume in 1956.



Shrinking Role for Rails

Intercity freight traffic last year rose to a new high of 1,360-billion ton-miles—up 6.4% over 1955. Because overall traffic grew, each segment of the transport industry also hit new peaks in ton-miles carried, but there were shifts in the proportion of freight carried by each. Although railways remain the largest single freight carrier their share continues to shrink. In 1956, railroads carried 48.2% of total ton-miles of freight traffic, compared with 51% as



Putting a voice in the man-made moon

America's first man-made satellite will soon be launched into outer space where, traveling in its own orbit, it will circle the earth.

Deep inside will be sensitive electronic instruments which will "observe" cosmic activity and "report" findings back to us. Scientists believe that many a mystery of the universe may thus be solved.

Without electrical insulation of exceptional qualities, such as CDF supplies, the equipment inside these man-made moons could never operate.

But producing top-quality insulation for electronic wonders is just one of the exciting things going on today at CDF. Vital electrical parts for automobiles, aircraft, guided missiles — these are also being made better at CDF. As a subsidiary of the Budd Company, CDF is ever widening its field of operations.

Under Budd management, CDF products are better than ever . . . and with CDF can-do, your products will be better than ever. Drop us a line to start the ball rolling.

CDF **CONTINENTAL-DIAMOND FIBRE**

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You can open new doors for trade, commerce, and finance in the Far East through the many services available at Japan's largest financial institution — The Fuji Bank, Ltd.

Our New York office is at 42 Broadway — in London, at Finsbury Circus — where a hearty greeting and a vast knowledge of the Far East awaits you.

You are cordially invited to use our extensive facilities. Domo arigato gozaimasu.

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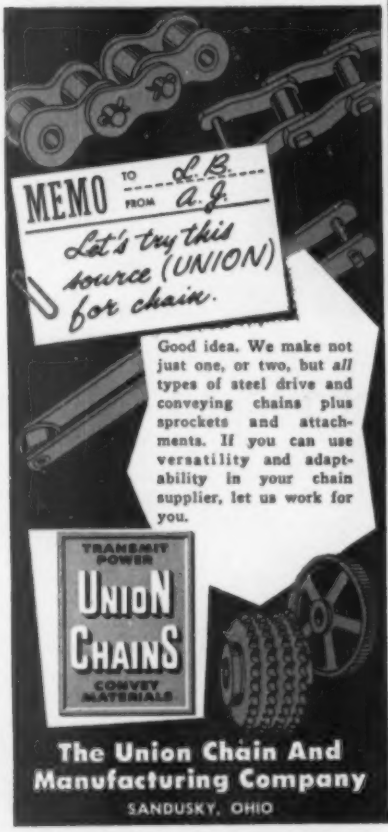
MEMO TO L.B.
FROM A.J.
Let's try this source (UNION) for chain.
Good idea. We make not just one, or two, but *all* types of steel drive and conveying chains plus sprockets and attachments. If you can use versatility and adaptability in your chain supplier, let us work for you.
TRANSMIT POWER
UNION CHAINS
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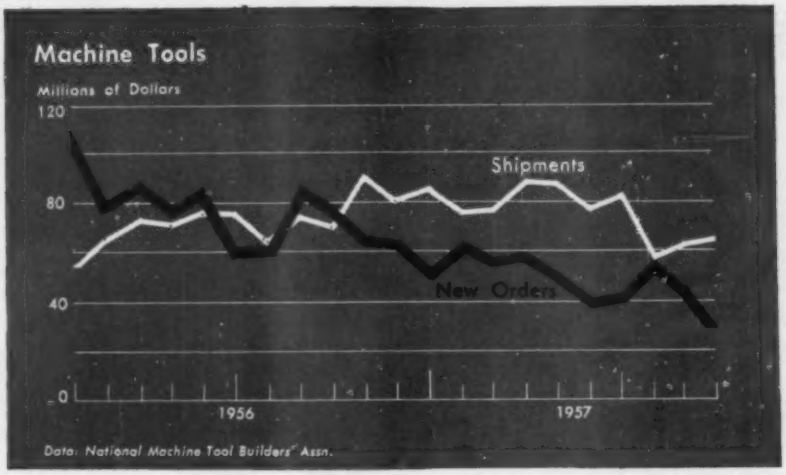
SANDUSKY, OHIO

recently as 1953. Motor vehicles carried a larger share last year than in 1955, but this was still below the 19.1% they hauled in 1954. And oil pipelines once again carried a larger part of the total than the year before.

Airways increased their share of the total by 17% from 1955 to 1956, with the number of ton-miles flown increasing from 500-million to 600-million. But this still is only 0.04% of the nation's intercity freight total.



Orders Drop Sharply

New orders for machine tools in September dropped to $28.8-million—down 35% from August and 63% from September, 1956. Actually, the decline in orders has been going on for a year, foreshadowing lower capital spending.

A relatively high level of shipments cut the order backlog in September to 3.7 months compared with 7.7 months a year ago.

Sales Are Faltering

Department store sales in each of the last five weeks have either shown no increase over a year ago or have declined. It is the first time this year that sales have failed to gain over year-ago levels for so long a period. Department stores sales reflect to a large extent apparel volume and retailers hope that it is only relatively mild weather that has held back shoppers. However, the trend has been disturbing to retailers preparing for holiday trade.

T. A. Klabau, Plant Manager
American Can Company, Oakland, California

California's boundless resources make the Golden State the largest producer of canned foods in the nation. So naturally, the American Can Company, leading U.S. producer of metal and fibre containers, has maintained a major can-manufacturing plant in MOA since 1918.

"This plant is now equipped to produce 1,250,000,000 containers annually for food, beverages and industrial products," says T. A. Klabau, Plant Manager.

"Since 1946, Canco has expanded the floor-area of the Oakland plant by more than 50 per cent — up from 360,000 square feet to a 1957 total of almost 550,000 square feet.

"This year, Canco's Oakland plant added a whopping 60,000 square foot expansion, making it the first container plant in the West that is able to process can-making plate 'on the spot' from bulk steel delivered in 15,000-lb. coils. Result: a new era in Western can-manufacturing — pioneered in Metropolitan Oakland."

American Can Company Knows From Experience That

INDUSTRIES "GROW PLACES" IN MOA

(Metropolitan Oakland Area)

With six of California's richest agricultural valleys so close, it's only natural that manufacturers of products indispensable to food processing customers should decide on centrally located Metropolitan Oakland Area (all of Alameda County) as the logical place for Western branch operations.

As a result, MOA now has branch plants of more than 200 national concerns. Almost without exception, these plants are expanding — "growing places" due to better distribution to the 24 million people (with $9 billion annual buying incomes) who live in the 11 Western States.

Whether your plans for expanding Westward are aimed at 4 million high-income customers in the immediate Bay Area, or ten million more in the State of California, or an additional 11 million in the other 10 Western States — you can reach them all from MOA by land, sea or air: 3 transcontinental railroads, 20 interstate overland freight lines, and 11 major airlines provide fast, adequate transportation.

WRITE FOR FREE FACTFILE

Up-to-date, factual Data Sheets that tell you why our ideal climate, excellent living conditions, ample labor supply, proximity of raw materials and key markets, and other highly important factors make MOA the Most Outstanding Area in the West for industry. Plant location map of 200 nationally known firms included. Your inquiry will be held in strict confidence.

On the Mainland Side of San Francisco Bay

MOA Metropolitan Oakland Area

ALAMEDA
ALBANY
BERKELEY
EMERYVILLE
FREMONT
HAYWARD
LIVERMORE
NEWARK
OAKLAND
PIEDMONT
PLEASANTON
SAN LEANDRO
RURAL ALAMEDA COUNTY

CALIFORNIA

Suite 203 - 1320 Webster Street, Oakland 12, California

Betty Schwartz, left, xerography operator at the Hotel Fontainebleau, above, Miami Beach, Fla., peels off, from XeroX® plate, an offset paper master prepared in three minutes by xerography.

HOW XEROGRAPHY and offset duplicating save $15,000 at the Hotel Fontainebleau...

Miami Beach's modern ivory tower... the gleaming multi-tiered Hotel Fontainebleau... sweeps at night in a moonwashed arc between 44th and 45th streets, its massive but imposing beauty mirrored by the ocean in front and yacht basin behind.

For its customary 1,000 daily guests there is an impressive choice of restaurants and grilles, where good food and good talk may be enjoyed in restful splendor.

Understandably, in an establishment of such magnitude, the printing bill for menus, hotel forms, flyers, etc., could be considerable if it were not for xerography, the clean, fast, dry, electrostatic process that copies anything written, printed, typed, or drawn.

In its first year's use of XeroX® copying equipment, the Fontainebleau has saved $15,000 in printing costs alone. Menus of many kinds, assorted announcements, flyers, press releases, the hotel newspaper, and forms of many types must be printed *daily*. They are all done swiftly, accurately, and attractively by xerography and offset duplicating. Quality, which has to be of the highest, in harmony with the superb surroundings, is maintained.

speeding the preparation of

MENUS
FORMS
HOTEL NEWSPAPER
NEWS RELEASES
MANY OTHERS

Besides, xerography, which copies in the same, enlarged, or reduced size, enables the Fontainebleau to offer a new dimension in service—the printing of jobs that only a year ago were considered too costly or time-consuming. Special menus for conventions, for instance, with the organization's imprint on the cover are now routine.

Pleasing as the lower costs are, the reduction in time is even more gratifying. It takes only three minutes to prepare an offset paper master by xerography, and only a few more for runoff of multiple copies for immediate distribution and use.

XeroX copying equipment is widely used in business, industry, and government for all types of paperwork applications. Let us show you with facts and figures what versatile xerography can do for *you*.

WRITE for proof-of-performance folders showing how companies of all kinds and sizes are cutting costs and speeding paperwork by xerography.

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In Research

• • •

Researchers Ready to Start Tests On Live-Virus Polio Vaccine

Medicine's virus researchers are on the verge of achieving one of their fondest dreams—a live attenuated virus that will provide complete immunity to polio (BW—Mar.17'56,p136).

A live vaccine, within not too many years, could deliver the knockout blow to the disease, sent reeling by Dr. Jonas Salk's "dead" vaccine.

And once they are able to produce a live polio vaccine, researchers will be that much closer to developing similar vaccine for protection against other diseases—from the simple virus-caused common cold to certain forms of cancer and measles.

Field tests of the live, modified polio vaccine are scheduled to start soon, with between 1.5-million and 2-million persons receiving shots. They will be conducted by American Cyanamid's Lederle Laboratories Div., which has been the center of "live virus" research for many years. For some time, Lederle researchers have known how to weaken (or attenuate) two strains of polio virus. Now they are able to modify the third known strain of polio virus to a point where it offers no danger to those inoculated yet is strong enough to destroy the submicroscopic particles that bring about polio infection.

Such a vaccine will offer much better protection against polio than the Salk vaccine, which contains viruses killed through immersion in formaldehyde. Dead viruses encourage the buildup of antibodies in the human body. But there is always the possibility that the virus will be either too dead to do much good or not dead enough (as happened in the early days of Salk vaccine production), causing persons inoculated to come down with the disease.

In a live virus vaccine (like cowpox), on the other hand, the molecular structure of the virus is weakened by passing it through animals. This vaccine can be safely injected into humans at a much higher strength than a dead vaccine, giving much wider and longer protection.

• • •

New Ideas for Aircraft, Missiles Top List of Most-Wanted Inventions

Weighing heavily on the Commerce Dept's recently published list of 387 unsolved scientific problems are those having to do with aviation and missiles. The government hopes that technicians in the aviation and rocket industries may already have the answers to many of them. But it also welcomes suggestions from anyone else.

Here are some of the problems that made Commerce's list of "Inventions Wanted by the Armed Forces":

MORE NEWS ABOUT RESEARCH:

• P. 188 General Electric opens $10-million lab for researching commercial uses of the atom.

• Turbojet engine noise suppressor devices that provide a 5 to 10 decibel noise reduction without loss in engine thrust.

• High-speed rotor systems, retractable rotor systems, crash resistant fuel tanks, flying platform stabilizers, and new ideas for emergency power systems.

• Solid or semi-solid materials to replace the water and oil now used in aircraft hydraulic systems; flexible hose materials for handling the newer propellants; better plastic materials for aircraft, better compounds for aging natural rubber and synthetic polymers.

• White paint that will withstand aerodynamic heating to temperatures between 1,000F and 1,700F.

• Better corrosion protective coatings for aircraft; materials that can act as engine preservatives, protecting parts for up to 10 years.

• Fluorine-resistant lubricants, gelling agents for gasoline, gamma radiation shielding materials that will be appreciably lighter than such metals as lead.

• A process to remove argon from air that would permit use of an open air cycle nuclear power plant. Argon, an inert element in air, becomes radioactive when it passes through a reactor, and therefore would be dangerous if released back into the atmosphere.

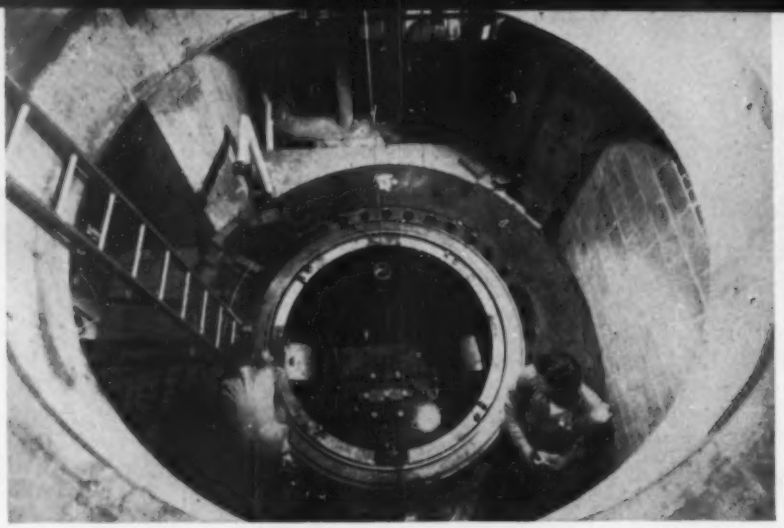
• • •

Ceramic Coating for Piston Heads Promises a Cut in Exhaust Pollution

A modification of the ancient art of ceramics looks like one solution for automobile exhaust gas—a major factor in smog and air pollution. The Armour Research Foundation, at Illinois Institute of Technology, has developed a catalytic ceramic coating for piston heads that promises a real cut in the carbon monoxide and unburned hydrocarbons in exhaust gas. As an added blessing, the coating offers greater insulation and efficiency of fuel combustion.

The ceramic coating grew out of an earlier ARF innovation called Flame Ceramics, in which metal objects are coated with non-metallic powders sprayed on with a flame gun. Early study had indicated that flame ceramics might reduce heat cracking and carbon deposits in diesel engines. So ARF researchers pushed on to develop a flame coating containing oxides of rare earths to act as a catalyst in internal combustion engines. Exhaust data showed that this improved efficiency—both when an engine idles, and at high cruising speeds. What's more, it reduced the formation of carbon monoxide and unburned hydrocarbons when an engine was speeded up or slowed.

Much work must be done before the coatings will be ready for commercial use, but for the long haul it promises not only reduced air pollution but perhaps a chance to reduce anti-knock additives in gasoline (BW—Oct.26'57,p173).



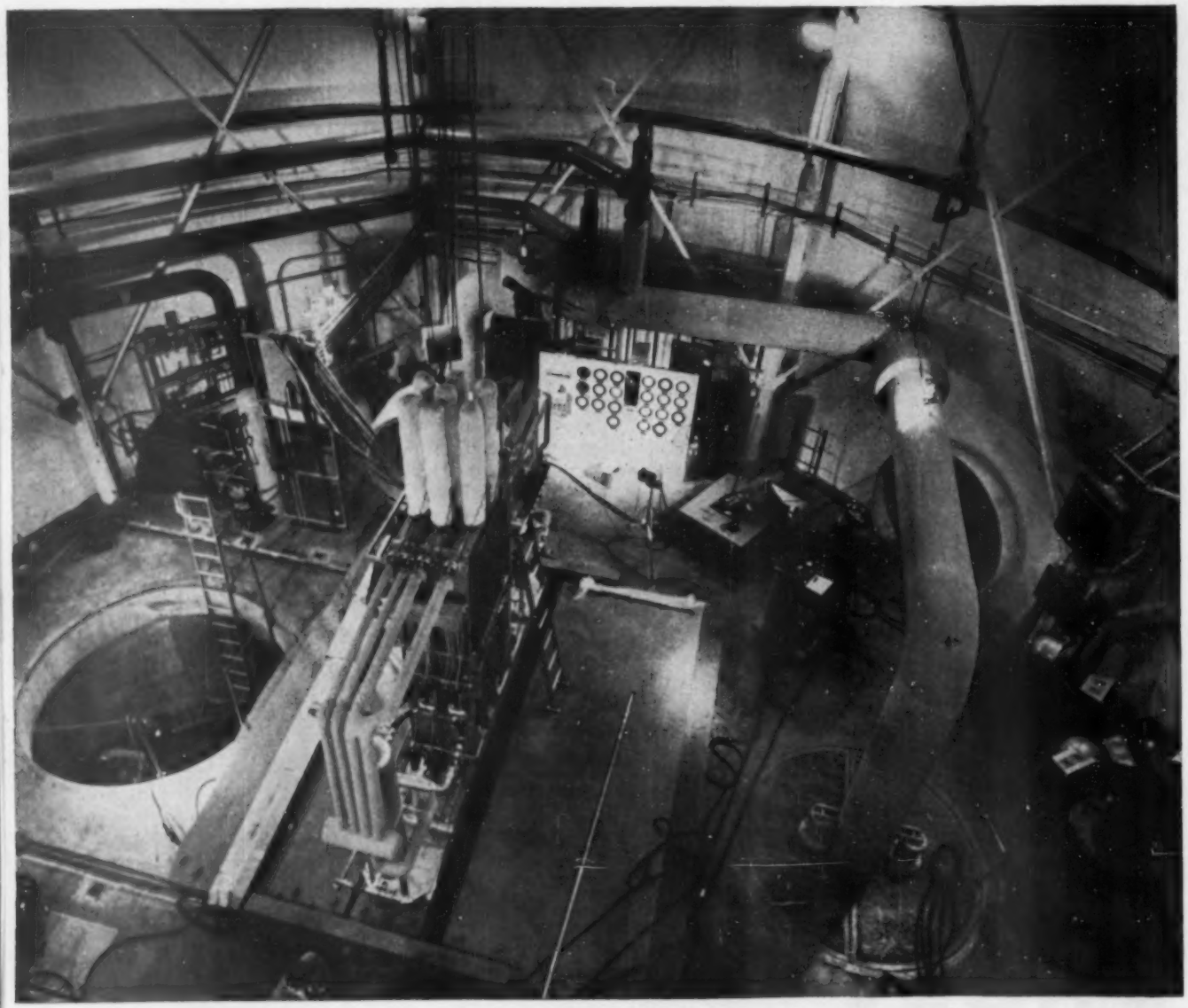
ATOMIC REACTOR of the boiling water type is the lab's most exciting piece of equipment. Men climb into reactor's pressure vessel to clean top of core before it is sealed.

GE Bets

With a $10-million investment to start, GE has launched its Vallecitos lab in California as a center for research in the commercial atom.

The equipment in the pictures on these pages is part of a $10-million gamble by General Electric Co. that large-scale commercial use of atomic energy is close at hand.

The $10-million is just GE's initial ante for its new Vallecitos Atomic Laboratory, near Pleasanton, Calif. The company already is committed to spend



STEEL DOME houses the reactor. Pressure vessel is at left; control and safety rods, ready to be moved over core, next at right.

the Atomic Future Is Near

another $4-million for additional research facilities on the 1,600-acre site. And no one is predicting this will be the last expansion of the lab.

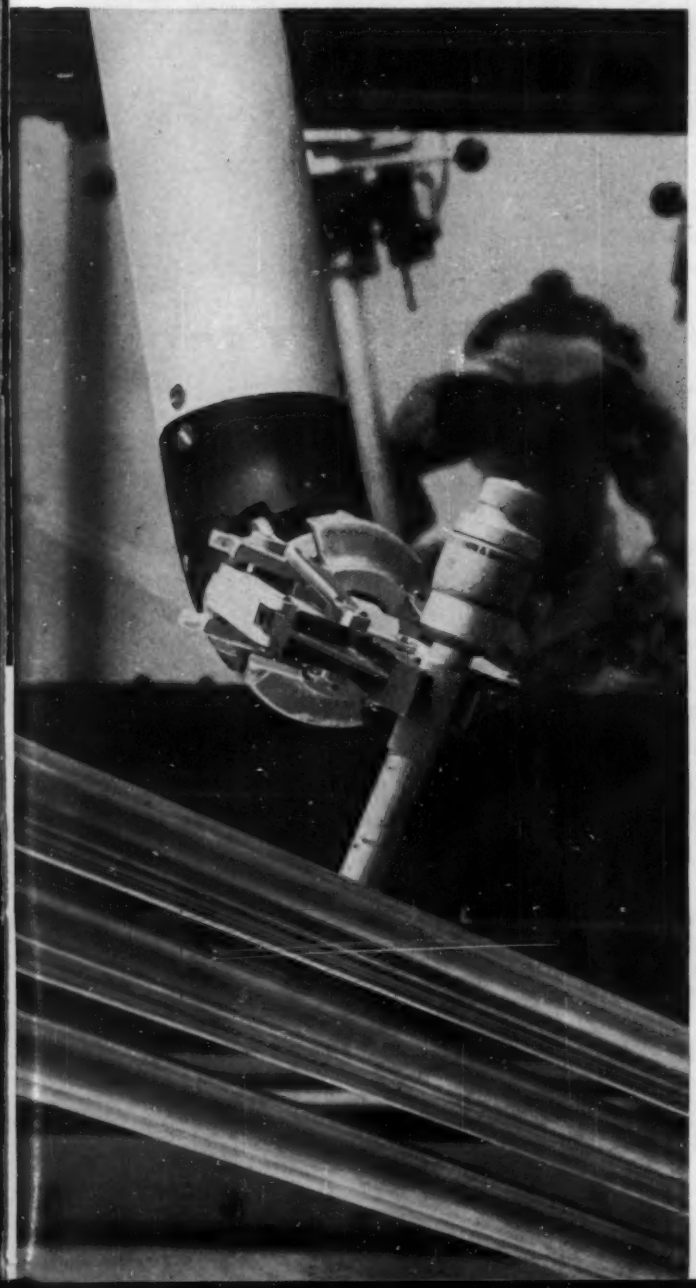
• **Essential Facility**—GE considers the money well spent because such a layout is essential in designing atomic reactors and testing components and structural materials for them. The lab is an arm of GE's Atomic Power Equipment Dept., located at nearby San Jose. APED is building a reactor for Commonwealth Edison Co's Dresden atomic power plant and several smaller commercial reactors, and it has plenty of work for Vallecitos.

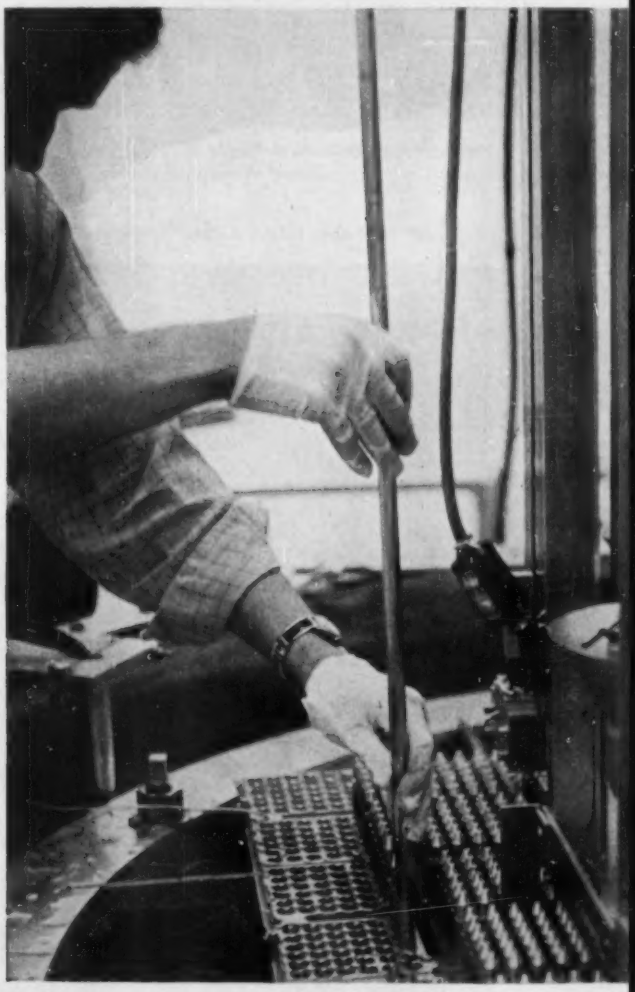
The money will be even better spent if the lab achieves another, even more important objective—to help APED's engineers build an atomic power plant that can produce electricity at, or near, the same cost as power from conventional generating plants.

This is the goal of all GE's competitors in the atomic field, too. That's why a number of them have invested in similar research facilities on substantial scale. No one can predict just exactly when competitive atomic power will be achieved, but industrial researchers are certain to have a hand in it. And along the way there are bound to be important—and patentable—developments in reactor technology.

When the whole field of atomic development was still a government monopoly, research was confined either to the Atomic Energy Commission's national laboratories or to installations operated by industry for AEC. Typical of the industry-operated labs is the Knolls Atomic Power Laboratory, which GE runs for the government at Schenectady. This lab produced the power plant for the submarine Seawolf and is developing other naval reactors for AEC.

Until APED moved to San Jose last year, all of the company's commercial atomic power activities also were centered at Schenectady, N. Y. This

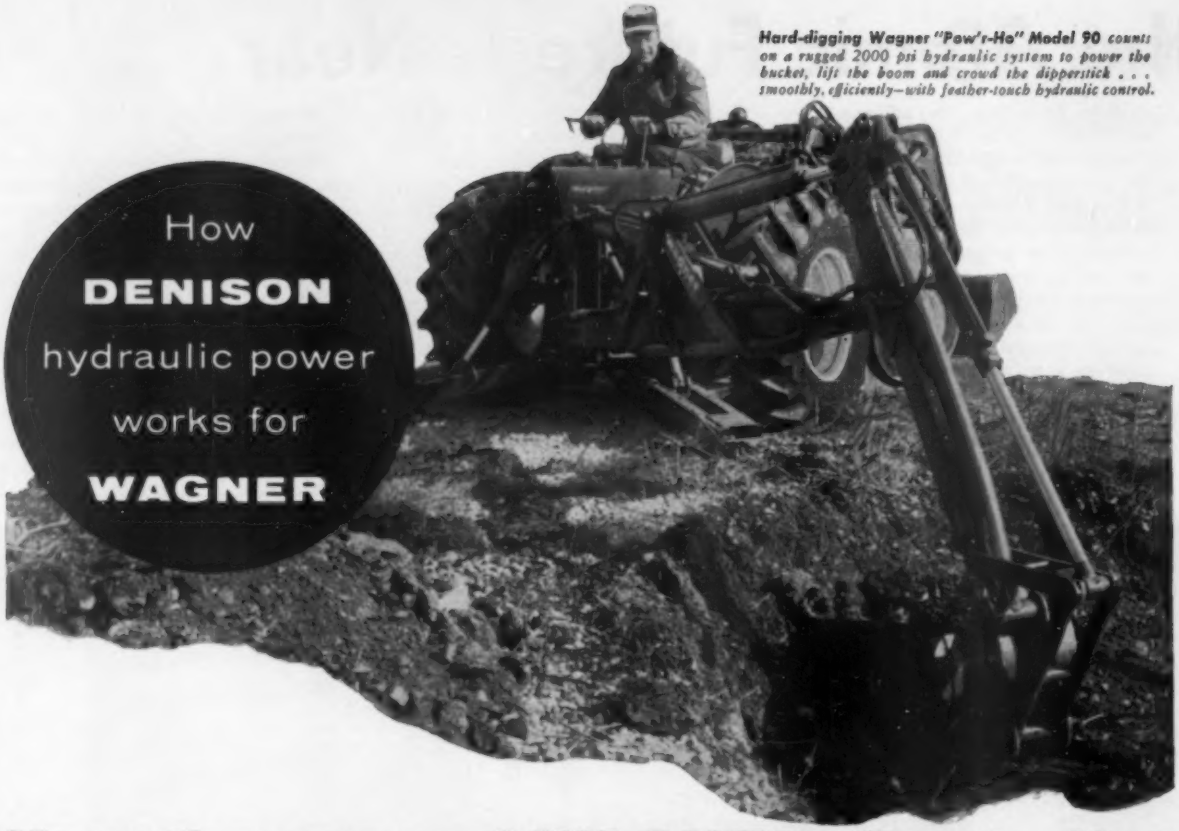




PHYSICIST loads fuel rods into a critical facility—a sort of reactor mockup where fission occurs without heat.

WITH BINOCULARS, a lab man reads gauge to see if exposure to radiation has distorted fuel rods.

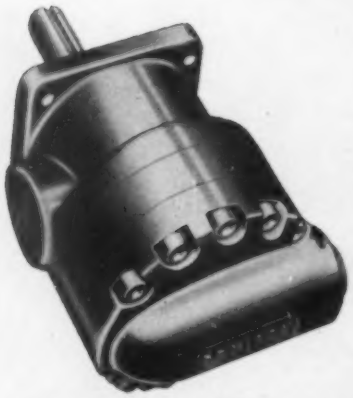
How **DENISON** hydraulic power works for **WAGNER**



***Hard-digging Wagner "Pow'r-Ho" Model 90** counts on a rugged 2000 psi hydraulic system to power the bucket, lift the boom and crowd the dipperstick . . . smoothly, efficiently—with feather-touch hydraulic control.*

How the rugged WAGNER "Pow'r-Ho" bites 12-feet deep

. . . another application for DENISON hydraulic power



***Hydraulic Punch** for the "Pow'r-Ho" is supplied by a single Denison 2000 psi TMC balanced-vane pump that actuates five hydraulic cylinders.*

Whatever the job—digging gas line . . . foundations . . . or drainage ditches—the rugged Wagner "Pow'r-Ho" Model 90 backhoe bites in hard, fast and deep with hydraulic muscle-power by Denison.

Five hydraulic cylinders—actuated by a Denison hydraulically-balanced TMC vane-type pump—power the bucket . . . lift and swing the boom . . . crowd the dipperstick. It's a fast, smooth, efficient operation—with power to spare, because a rugged, Wagner-designed 2000 psi hydraulic system and the Denison TMC vane pump make it that way.

Result: Harder digging with faster time cycles that mean *more profit* to the user.

It's the kind of job your Denison hydraulic specialist can help *you* do. Ask him more about how Denison 2000 psi pumps can improve the performance of *your* equipment. Write Denison Engineering Division, American Brake Shoe Co., 1238 Dublin Road, Columbus 16, Ohio.

DESIGNERS—ENGINEERS! Write for your copy of Bulletin 201—"How to Design More Efficient Hydraulic Power Into Mobile Machinery".

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HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

DENISON HydrOILics

(Story starts on page 188)

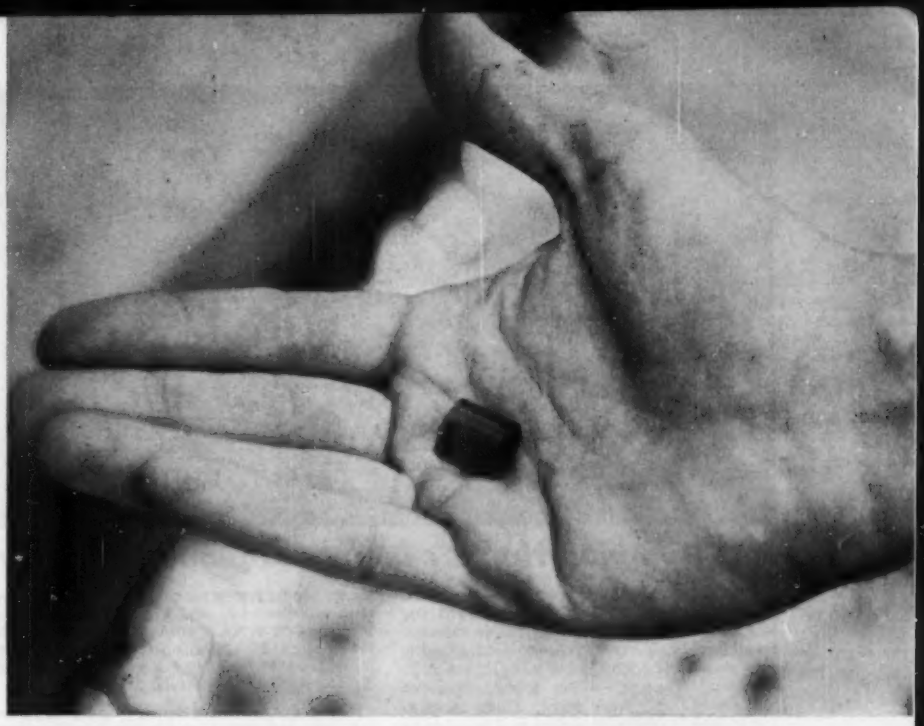
made for a somewhat touchy situation.

Although GE leaned over backward to keep its commercial and government work separated, it was open to criticism so long as both operations remained in Schenectady. Both staffs required the same kind of personnel and equipment, both had similar work-a-day problems.

• **Time to Move—Anyhow**, there clearly was a growing need for additional manufacturing and research facilities for APED. So the company brass decided the time had come to move the department. The San Jose facilities were completed last year, the Vallecitos lab in May of this year.

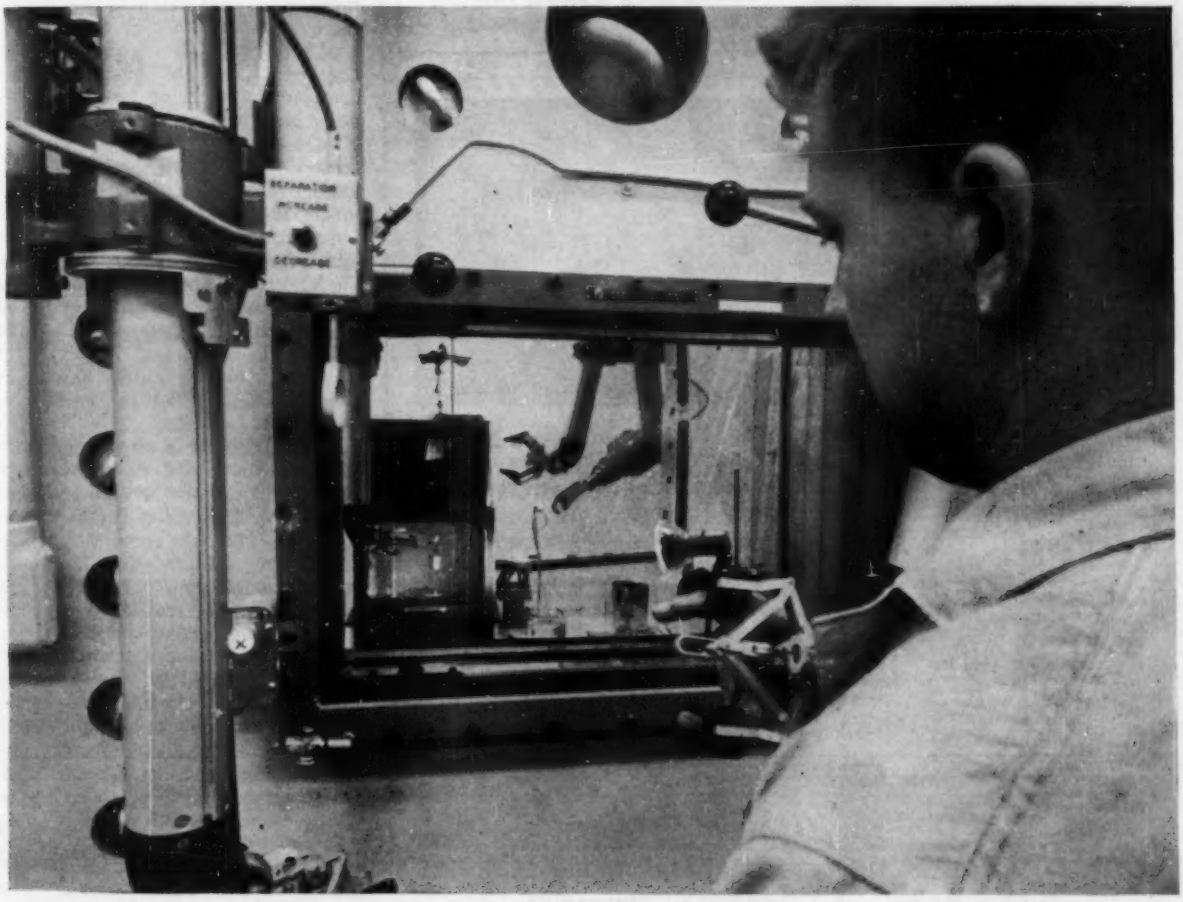
Several factors figured in the choice of California for APED. Among these was the company's policy of decentralization of plants—it has manufacturing facilities in 32 states. Then there was the matter of people—good nuclear engineers are hard to find and to keep.

"A large number of the kind of technical people we need seem to prefer to live in California," says a spokesman. "At least, we found it easier to persuade people to work close



TINY PELLET is uranium dioxide. In this form, it is placed in stainless steel fuel rods for the reactor. Until it has been irradiated, fuel is harmless to handle.

AFTER IRRADIATION, fuel pellets must be handled by manipulators inside shielded test cell. Studies tell what fuels work best.



Self-Dumping Hopper increases plant efficiency

Handling costs have been cut sharply and plant efficiency has been increased for Henning Brothers & Smith, metals refiners, Brooklyn, N. Y. Bulk materials handling is now standardized by using nine Roura Self-Dumping Hoppers—doing several different jobs throughout their plant. These maintenance-free Hoppers, attached in 3 seconds to any standard lift truck, dump aluminum scrap into furnaces, move 400-600° zinc ingots to a storage area, and are loaded with hot brass ingots from a conveyor belt. In each job, the entire operation is handled by one man. He just flips the latch and the Hopper dumps itself, rights itself, and locks itself.

Why not let Roura Self-Dumping Hoppers cut costs and save time for you, handling hot or cold, wet or dry bulky materials.

ROURA *Self-Dumping* **HOPPER**

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to institutions like the University of California, which has a fine reputation for its work in the nuclear field."

• **Triple Installation**—The lab now consists of three principal installations. One of these is a radioactive materials building, where fuel and other materials that have been exposed to radiation in reactors are tested. The experimental physics lab contains equipment for simulating reactor operations and a small testing reactor.

Perhaps the most exciting piece of equipment is a completed power reactor separated from the two labs by a substantial hill. This is the boiling water reactor that went into operation last week. This reactor heats water in its core and feeds steam to an adjacent turbine opened and operated by Pacific Gas & Electric Co.

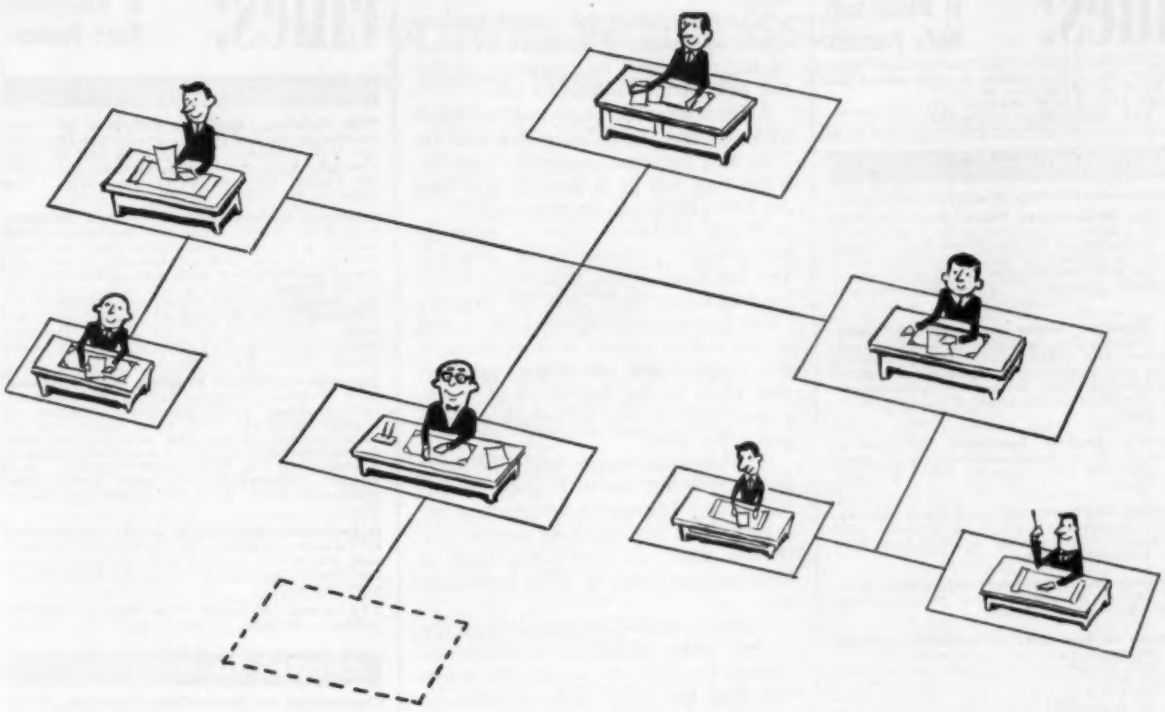
GE built this small machine (it will have an electrical capacity of 5,000 kw.) largely to check the performance of the big water boiler it is building for a 180,000-kw. Commonwealth Edison Co. plant in the Chicago area. The small reactor is not an exact prototype, but it can be rigged to operate in the same fashion as the larger machine.

• **Right Combination**—But the work going on in the two labs, though it is more of the nuts-and-bolts type, is even more important to GE for the long haul. There, basic designs are being checked, irradiated materials and components are being tested to determine how well they stand up inside a reactor.

"Everyone in this business is still seeking the combination of fuels, coolants, and structural materials that will work economically in a reactor," explains Ralph D. Bennett, director of the Vallecitos Lab. "There are dozens of combinations, and each has its advantages and disadvantages. At this stage of the game—just 15 years after the first reactor was built—it takes a lot of work to check out any type of reactor."

• **Present Emphasis**—Right now, of course, the emphasis is on the water boiler type. A critical facility—an assembly of fuel that creates fission but no power—has been set up in the Physics Building to simulate the Chicago reactor. Configuration tests—varying arrangements of the fuel rods within the core—are being run off on the critical facility to determine the arrangement that will produce the best operating results. For the Chicago reactor—or any power reactor—this means the maximum amount of heat obtainable without disrupting the fission process.

The critical facility has been loaded with steel and zinc alloy rods containing pellets of uranium dioxide. After this test—basically to determine whether such rods will operate—similar rods



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will then be installed in the power reactor.

Then will come the crucial tests to determine operating performance. Some of the rods must be examined in the test cells of the radioactive lab.

Others must be measured to determine if they have been distorted by heat and radiation inside the reactor. Then they will be broken open so that the fuel pellets can be examined.

• **Worst Problem**—"Fuel is probably our greatest concern at the moment, and the most serious problem concerning fuel is corrosion," says Dr. Bennett. "The fuel must be hermetically sealed in the rods to protect it from water in the reactor. But the fission products that form in the fuel are highly corrosive, both to the fuel itself and its protective jacket."

The uranium dioxide fuel now being tested at Vallecitos looks good to GE technicians because it is corrosion resistant. The big question now is how it will stand up under the kind of temperatures required of a power reactor.

• **Versatile Staff**—Concentration on the boiling water reactor is a temporary matter, Dr. Bennett insists. He points out that the lab's staff, partially recruited from other GE nuclear activities, includes scientists and engineers experienced in building and operating several other types of reactors.

"We'll tackle anything the people at San Jose ask us to look into," he says. We won't design or build any commercial reactors. That's the job of the manufacturing and engineering staff at San Jose. But we'll help on design work where needed and test anything they send us."

Right now, part of the Vallecitos staff is testing a research reactor built at San Jose for export to Spain. Object of the test is not to seek out any "bug" in the apparatus—that was taken care of at San Jose. It is a matter of precisely charting the operating characteristics of the reactor for the benefit of its Spanish owners.

• **Future Plans**—Dr. Bennett estimates that GE has already invested "about $10-million" in the Vallecitos lab. But additional equipment already is being planned. The chief addition will be a $4-million testing reactor, for which the company already has asked AEC approval.

The test reactor will be the lab's ultimate tool for checking fuels and other materials. It is specially designed to produce intense neutron concentrations, as are the AEC's big testing reactors—and for the same reason. The heavy neutron production will permit exacting test of materials and equipment in short periods of time.

The test reactor is scheduled for completion in late 1958. **END**

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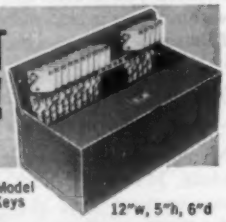

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THE TREND

The Investment Boom Tapers Off

The U. S. has come to a pause in the largest capital investment boom in history. Next year, as shown by McGraw-Hill's preliminary survey of business plans, industry will spend 7% less than it is spending this year (page 23).

The prime reason for this setback is that capacity has outrun demand. The drop is concentrated in the manufacturing industries—their plans for 1958 are down a full 16%. And, indeed, it is only to be expected. This great range of industries making everything from microscopes to missiles has been adding steadily to its capacity. But over-all production has been standing still for two years, showing no real growth. As a result, in September companies found that on the average they were operating at only 82% of capacity. The time has clearly come to slow down.

Questions

This survey, coming at a time when the course of the economy as a whole seems uncertain, is bound to raise many questions.

Perhaps the first is: Has the stock market break forced companies to plan even deeper cuts than they reported in the survey?

This survey was made largely in October. But the stocks of some companies have bumped down to new lows since they made their returns. Are they likely to cut back still more? It may be six months before we know the final answer to that question, but it is likely to be that they are not.

Any company's estimate of its future capital spending reflects plans set in motion a year or more ago—to build new buildings, install new turbines, add to a refinery, or open up new mines. Inevitably, many projects like these run a year or more into the future. They can't be turned off like a tap.

Moreover, plans for industry as a whole show a remarkable stability. In two previous recessions since World War II—in 1949 and 1954—the final returns on capital facilities put into place during the period jibed very closely with plans reported at the beginning of the year.

Does the downturn in capital spending mean the end of the boom? It is too early to make a hard and fast forecast of business as a whole for 1958. But there will clearly be some offsetting influences (page 27). Government investment in highways is rising. Spending by state and local governments—about $12-billion of which is investment in roads, schools, buildings, and other facilities—is rising. Federal defense spending—in part to meet the challenge of a second and larger Sputnik circling the earth—is likely to rise. Many economists expect homebuilding to rise. It wouldn't take much of a gain in one or all of these economic forces to offset the $2.5-billion drop expected in private business capital investment.

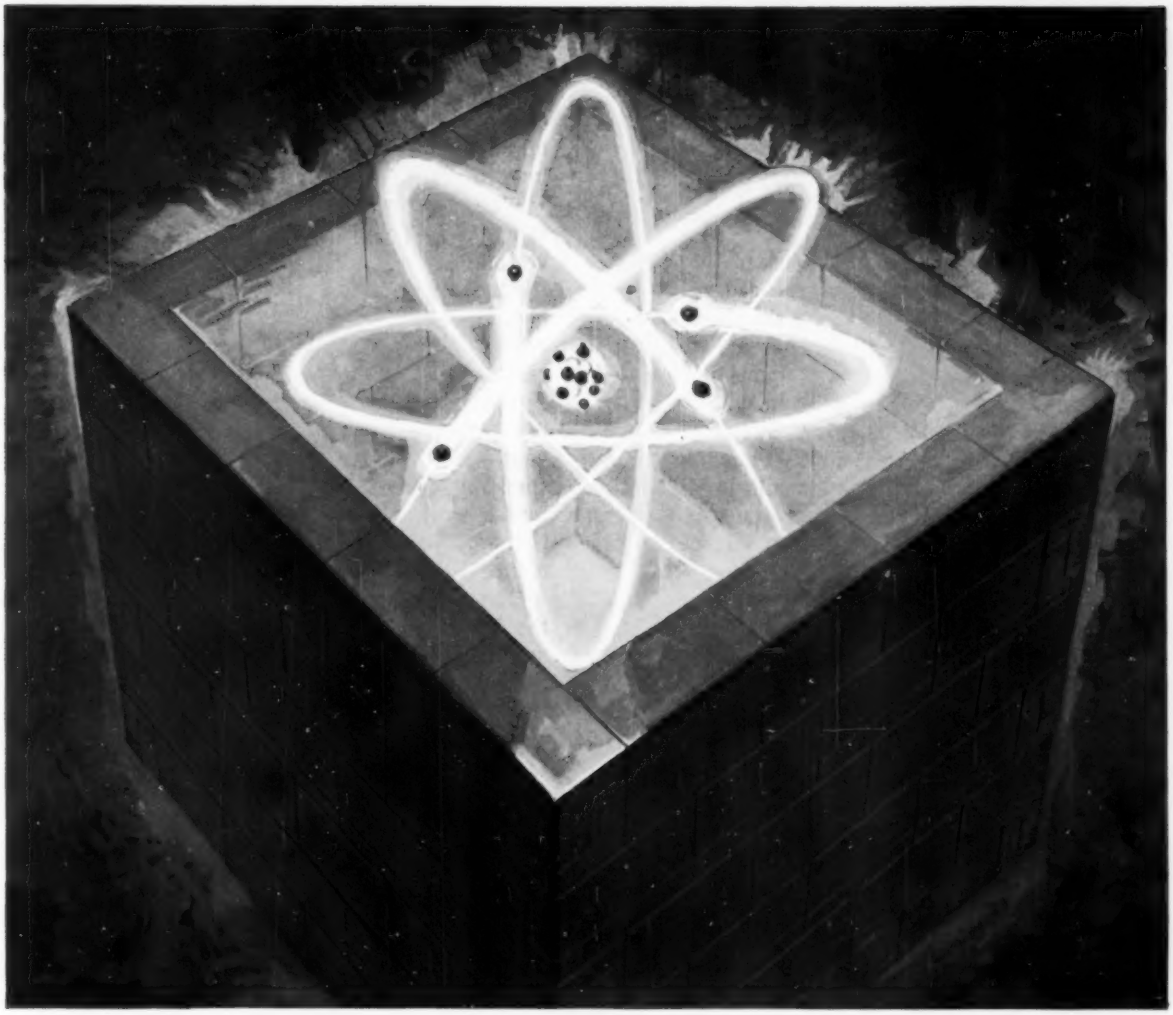
Well, does this mean the end of the boom in capital investment? The survey suggests that investment in 1959 will be no larger than in 1958. It's too early, though, to say that it is going into a permanent decline. The investment boom has been running since World War II—but it has shown remarkable vitality. In 1949, plans were cut 12.6%. Again, in 1954, they were cut back. With a growing population—almost 3-million more people a year—and with manufacturing companies alone spending almost $7-billion a year on research—foreshadowing a host of new products—it is unlikely that we have seen the end of the boom in investment.

Certainly, companies haven't lost their faith in the future. While they are cutting back on bricks and mortar and power plants and machine tools, companies are raising their spending for research. In the manufacturing industries, 5% of companies expect to cut their research budgets in 1958. Some 54% will spend about the same; 41% plan to spend more next year.

Perspective

This survey comes when most companies are making up budgets and when everyone is thinking ahead to a new year. It's the time to take stock. And, in the longer look, the U. S. has something to whistle at. In the last decade, industry has invested almost $270-billion in new plants and equipment. In this time, the manufacturing industries have raised their capacity 72%. Industry is providing the goods—the materials, the planes and missiles, the food and munitions, the research and development—to support a $46-billion military program in time of peace. At the same time, it is providing such a flood of products for civilians that Americans almost apologize for the extravagance of their scale of living. And, indeed, industry is ready to do more—the problem again is too much capacity. While the manufacturing industries were setting records in production, their new equipment has raised efficiency so that we have today's flood of products from plants employing only a few more people than they did in 1947.

It may be well that we need a pause, a chance for the country to catch up in orderly fashion with industry's growth. But it won't be too much of a pause. For the $36.1-billion of capital spending planned for 1958 is still a very high level of investment—to support a $46-billion military program still a big boiler at work.



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